CAUSES AND CONSEQUENCES OF SHAREHOLDER ACTIVISM

A Dissertation

by

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ABSTRACT

This dissertation is comprised of two essays that examine the causes and consequences of shareholder activism. In the first essay, we examine five different types of evidence to determine whether interventions by activist investors increase shareholder value. We find short-window returns around the announcement of an activist share purchase are sizable and do not reverse in a two-year, post-intervention period. The increase is greatest for demands to sell all, or part, of the target firm but is still significant for other demands. Many critics of activism maintain the market is being misled. We therefore investigate how market participants who invest heavily in information respond, since they are likely to be knowledgeable about the long-term impact of activism. Despite an often sizable price increase around the activist announcement, analyst buy recommendations increase, short interest declines, and accounting fundamentals improve. Most importantly, ownership by long-term ("dedicated") institutional investors increases. All five types of evidence indicate that activist interventions increase long-term shareholder value.

In the second essay, I examine how business press coverage influences shareholder activists' targeting decisions and subsequent campaign announcements. Leveraging predictions from prior theory, I posit and find that activists are most likely to target firms with high levels of total media coverage, especially negative media coverage. I also argue that activists may target firms with high media coverage to increase the likelihood that their campaign receives media coverage. I find consistent

evidence that pre-intervention press coverage is positively related to the likelihood and the level of press coverage of an activist campaign announcement. Finally, I find evidence of one benefit that higher media coverage conveys to activists who are successful in gaining coverage of their campaign announcements, namely, higher announcement returns. Together, these findings shed light on important determinants and consequences to shareholder interventions.

DEDICATION

To my wife, Jamie, whose love is the clearest evidence of God's grace in my life.

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This work was supervised by a dissertation committee consisting of Professors Edward P. Swanson (advisor), Lynn L. Rees, and Dechun Wang of the Department of Accounting, and Professor Shane A. Johnson of the Department of Finance.

Collaborator Contributions

The SharkRepellant data analyzed in Chapters II and III was provided by Seth Duppstadt at FactSet Research Systems. The first essay was coauthored with Professor Edward P. Swanson. All other work conducted for this dissertation was completed by the student independently.

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CHAPTER I

INTRODUCTION

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CHAPTER II

ARE ACTIVIST INVESTORS GOOD OR BAD FOR BUSINESS? EVIDENCE FROM CAPITAL MARKET PRICES, INFORMED TRADERS, AND FIRM FUNDAMENTALS

Introduction

In recent years, activist investors and the companies they target have attracted considerable attention—in the press, in the business and legal communities, in the political arena, and in academia. The fundamental question under debate is, as a recent *Wall Street Journal* article put it, "Are activist shareholders good or bad for business? (Benoit and Monga 2015)." Influential critics allege that "myopic activists" have a short investment horizon and seek actions that increase short-term stock prices at the expense of long-term shareholder value. We provide evidence to evaluate this criticism.[1] We begin by examining short-window equity returns around the activist ownership announcement and returns over the next two years. We also investigate whether target firms' financial performance improves or declines after the activist intervention. The study's primary innovation, however, is to investigate how highly informed market participants respond to activist interventions. We consider three parties who invest heavily in information acquisition and interpretation: financial analysts, short sellers, and

[1] For the purposes of this study, we define an activist investor, or a shareholder activist, as an individual or business entity that purchases a sizeable stake in a target company to effect value-increasing changes (Klein and Zur 2009). Although activism can impact a variety of stakeholders, (e.g., customers, employees, debtholders, to name a few), we focus on the value of activism for shareholders.

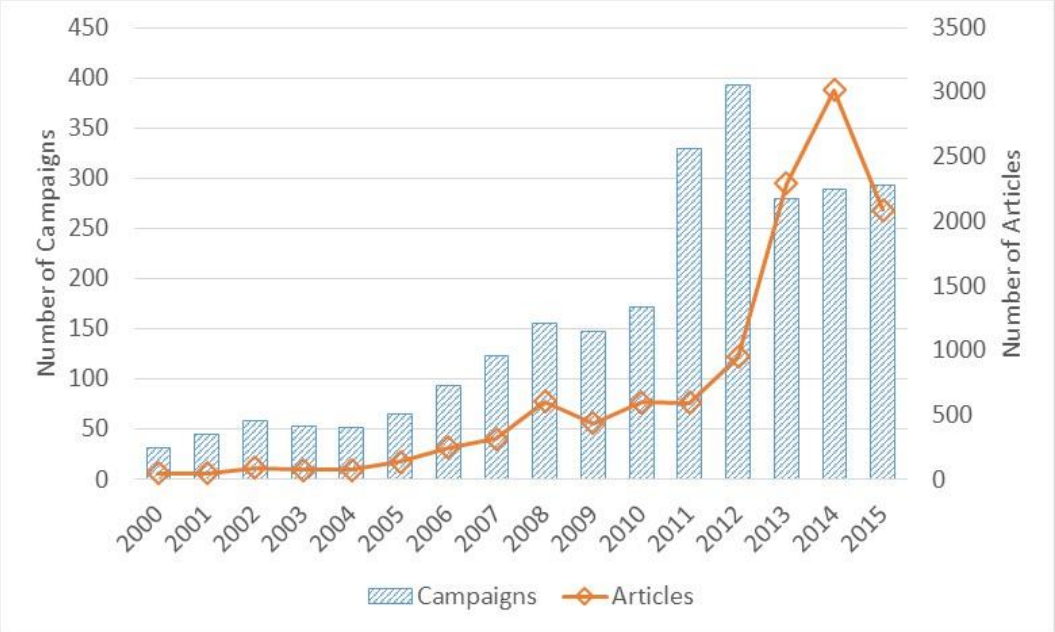
institutional investors. Our analysis of informed trading avoids empirical challenges related to the measurement of long-window returns (Kothari and Warner 1997), and it responds to critics of activism who do not accept market prices as the arbiter of firm value. The response of knowledgeable parties also provides direct evidence on the allegation by prominent critic Martin Lipton that a consensus is developing that the short-term orientation of activist investors is damaging the economy.[2]

We are interested in whether short sellers, financial analysts, and institutional owners agree or disagree about the valuation implications of an activist intervention. Finding agreement among three different market participants is a high hurdle. We are aware of one prior study examining agreement among these market participants. Jiao, Massa, and Zhang (2016) measure informed long demand by a decrease in shares sold short and an increase in institutional stock holdings by hedge funds; informed short demand is the opposite. They find that agreement among informed traders produces substantial out-of-sample abnormal returns and predicts future accounting fundamentals and analyst recommendation revisions. Their study indicates that agreement among sophisticated market participants provides insight into future shareholder value. Our study examines this issue in a different setting.

[2] Martin Lipton, a founding partner of Wachtell, Lipton, Rosen & Katz, is the most widely cited critic of activism. He states: "After three decades of turbulence in the corporate governance arena, we believe we are nearing an inflection point, as an increasing number of investors, stakeholders, academics, advisors, politicians and policymakers are recognizing the far-reaching and damaging effects of short-termism. Short-termism and activism are significant contributors to diminished GDP and to economic decline." (Lipton 2016).

Our analyses are based on a large sample of activist interventions from 1994 to 2014. Prior studies generally use campaigns in which the activist obtains an equity stake greater than 5% (the threshold for filing Schedule 13D with the SEC). Our study includes instances where the activist's ownership position is sizable, yet less than 5%. This occurs most often when target firms are very large and interventions arguably have the greatest economic impact. For example, *Forbes* reported that Carl Icahn owned only about 1% of Apple stock at the start of his well-publicized intervention, despite having an investment of $3 billion (Vardi 2014). Prior research has extensively studied activism through 2008, but much less research has been conducted on more recent years. Figure 1 illustrates the rise in the number of activism campaigns and the increased attention that shareholder activism has received in the business press in recent years. Coffee and Palia (2016, 6) question the relevance of empirical papers that study hedge fund activism in earlier decades. Krishnan, Partnoy, and Thomas (2016) refer to the period after 2008 as the "second wave" of activism because new activists enter, competition increases, and the most viable opportunities for interventions decline. Consistent with an increase in competition in recent years, a *Wall Street Journal* study of the biggest 71 campaigns from 2009 through 2014 found that activist-targeted companies outperformed peers in total shareholder return only about 50% of the time (Benoit 2016).

Figure 1. Activist Campaigns in Thomson One and Number of Activism Articles in Dow Jones News Sources, 2000 – 2015



The figure plots the number of activism campaigns in Thomson One (left axis) and the number of activism-related news articles for all Dow Jones news sources (right axis) for the years 2000 to 2015. Activism-related articles are identified in Factiva using the following search (without quotes): "hedge fund activis* or shareholder activis* or investor activis* or activist invest*".

Our study begins by reexamining results from prior research that show a positive short-window market reaction to the announcement of an activist campaign. Despite the sample differences, our results are consistent with prior research in finding that targets experience positive, short-window abnormal returns that are statistically and economically significant. The returns average 4.63% over a 16-day window and are especially large—averaging almost 17%—when managers are pushed by activists to sell all or part of the company (consistent with results from Greenwood and Schor 2009, and Boyson, Gantchev, and Shivdasani 2016). We find the average return is 3.48% for non-sale interventions, which is still sizable for a 16-day period (almost 50% annualized). This last result, which differs from Greenwood and Schor 2009, is notable because it broadens the set of interventions that increase the value of target companies beyond the sale of all or part of the company.

Next, we examine how financial analysts and short sellers respond to the ownership announcement. Analysts are generally regarded as the most important information intermediary for equity investors. Nevertheless, research indicates that short interest provides information that complements, and often exceeds, the information in analyst recommendations (Drake, Rees, and Swanson 2011). In investigating the reactions of informed parties, we compare target-firm outcomes to those of a propensity-score matched sample of control firms with similar pre-intervention characteristics. We conduct this analysis for the two years before and after the activist announcement, although we are primarily interested in the post-announcement period.

If, as its critics contend, activism actually *destroys* shareholder value, then target firms with positive abnormal returns in the announcement period would be overvalued. In this case, one might expect short selling to increase and analyst recommendations to be less positive after the announcement. We find the opposite. Specifically, we find that analyst recommendations for target firms decline (become less favorable) leading up to the activist announcement. The decline is sharp during the last six months prior to the announcement and quite different from the control firms. After the intervention, the average recommendation stabilizes for a few months (as analysts digest the implications of the intervention) and then becomes more favorable for the remainder of the two-year, post-intervention period. Examining short selling, average short interest for the targets is initially below that for the control firms, but it increases sharply so that it is slightly higher by the activism announcement. Short interest for the target firms then declines sharply after the announcement and finishes well below the control firms at the end of the 24-month post-announcement period. Two points are noteworthy: First, financial analysts and short sellers respond as if the increase in stock price at the activist intervention represents real value creation, rather than market overvaluation. Second, neither short sellers nor analysts anticipate an improvement in target firm performance. Some critics argue that activists are simply good stock pickers who are able to target companies that would improve their performance even without an intervention. If so, activists must have information that financial analysts and short sellers do not possess.

Next, we investigate whether returns and the reactions of analysts and short sellers are supported by improvements in the target company's financial results. We use

Piotroski's (2000) *FScore*, a broad, composite measure based on financial statement analysis that combines nine financial statement fundamentals. *FScores* have received considerable acceptance by investors and are available on several websites.[3] We find that two years prior to the activism announcement, target firms and their matched control counterparts have statistically equivalent *FScores*. The financial health of target firms then deteriorates, and in the year of the activism announcement, target firms have lower *FScores*. After the activist intervention, firm performance improves to the extent that activist targets have higher *FScores* by the second year.

Because critics often allege that shareholder activism induces short-termism at target firms, our final analysis examines whether an activist intervention affects the composition of a target firm's investor base. The intuition for this test is straightforward: If shareholder activism causes managers to adopt policies that favor short-term performance at the expense of long-term value creation, institutional investors with a long-term investment horizon would be expected to decrease their ownership. Using the classification of institutional investors developed by Bushee (1998), we find that ownership by "dedicated" (long-term) institutional investors does not decrease and, in fact, increases following an activist intervention. This occurs for both sale and non-sale campaigns, with an ownership increase for sale campaigns of about 69% (above the pre-intervention level). As with analyst recommendations and short selling, the favorable

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[3] Updated *FScores* are reported on grahaminvestor.com, stockrover.com, and aaii.com (American Association of Individual Investors). AAII.com has built the *FScore* into its "AAII Stock Investor Pro" screening software, which is discussed in a Forbes article: http://www.forbes.com/2009/02/23/piotroski-investors-strategy-personal-finance_piotroski.html.

reaction by "dedicated" institutional investors occurs after the stock price has increased at the public announcement for most targets.

Our study contributes to the literature on shareholder activism by considering several types of evidence to investigate the fundamental question of whether activist shareholders are good or bad for business. We acknowledge that it is possible to develop alternative explanations for the patterns we observe in analyst recommendations and short selling. For example, analysts may be especially interested in obtaining information from corporate managers when the company is under pressure from activists to change its operations. Providing a favorable buy recommendation might increase an analyst's access to managers. Short sellers could be forced to reduce their position because share purchases by activists have caused a recall of shares on loan and/or increased borrowing costs. Of the five types of evidence, the increase in ownership by long-horizon (dedicated) institutional investors is the most difficult to explain if activism induces managerial short-termism. The substantial post-intervention change in *FScore* is also indicative of improved performance by targeted companies. The one shared explanation for each of the five types of evidence is that inventions by activist investors are beneficial for shareholders.

Background on Investor Activism

Shareholder activism is a response to the potential increase in firm value from addressing the agency conflict at the core of large publicly traded companies with absentee owners (Gillan and Starks 2007, 58). Until the 1980s, the realm of shareholder activism was largely dominated by large institutional investors—insurance companies,

banks, pension funds and retirement funds—and a relatively small group of corporate raiders (Holderness and Sheehan 1985; Gillan and Starks 2000, 2007; Brav, Jiang, and Hyunseob 2010). Over the past two decades, however, hedge funds have played an increasingly prominent role as activist investors.[4]

The changes sought by activists can be broadly categorized as relating to the target's operations, capital structure, or corporate governance.[5] Commonly observed operational goals include selling a division of the company, improving the target's operational efficiency, restructuring the business, or even selling the company itself. Interventions related to capital structure often seek to increase the level of debt and/or reduce excess cash through higher dividend payments or stock buybacks. Corporate governance changes may include gaining representation on the board of directors; eliminating various takeover defenses, such as poison pills and board classification; replacing management; or increasing corporate transparency (Gillan and Starks 2007). These classifications are not mutually exclusive.

[4] The rise of hedge fund activists is due to several factors: First, while institutions such as mutual funds and pension funds are required to maintain sufficient levels of diversification to comply with regulations and enjoy certain tax benefits, hedge funds are largely free from such constraints. Nor are they subject to mutual funds' more transparent disclosure requirements that make it difficult for mutual funds to obtain substantial ownership in companies without alerting management and, importantly, the market as to their intentions. In this way, hedge funds are able to accumulate large positions in target companies before announcing their campaign (Gillan and Starks 2007, Cheffins and Armour 2011).

[5] Another form of shareholder activism exists in which activists push target firms to adopt policies or practices that promote corporate social responsibility (CSR). In these cases, activists' goals are aimed at increasing the welfare of parties other than shareholders, such as the community, company employees, or wildlife. Given the different goals of CSR activism and shareholder-centric activism and the fact that the proprietary data sources for activism that we use do not include CSR activist events, CSR activism is not the focus of this study.

Critics of shareholder activism contend that activists pressure managers to make decisions that result in positive short-term stock performance at the expense of long-term enterprise value. Martin Lipton, whose law firm specializes in takeover defense, has said that the short-term focus of shareholder activism has "led to the decline of the American economy and greater unemployment" (Lipton 2013c). Even billionaire investor Warren Buffett has criticized activists whose "short-term objectives have eroded faith in corporations continuing to be the foundation of the American free enterprise system…" (Blood et al. 2009).

Echoing these concerns, congressional lawmakers recently proposed legislation that would modify the rules covering disclosure of activists' positions. If an activist investor reaches a 5% "beneficial ownership" threshold, current rules require the activist to disclose its position by filing a Schedule 13D with the SEC within 10 days. The Brokaw Act would shorten the filing window from 10 to 2 days. The Act would also require activists to disclose significant short positions, and it would broaden the scope of financial instruments that constitute "beneficial ownership" to include any person with a "pecuniary or indirect pecuniary interest," including through derivatives (Mirvis 2016). Shortly after this proposed legislation was announced, a group of prominent activists, including Carl Icahn, Bill Ackman, and Daniel Loeb, formed a lobbying group, the Council for Investor Rights and Corporate Accountability (CIRCA), to give activists their own voice in Washington. Activists argue that their proposals for change create value for pensioners and other investors and also reduce corporate waste. Thus, evidence

on whether activist investments are good or bad for long-term enterprise value is directly relevant to the ongoing debate in practice.

Hypotheses for Non-Market Reactions to Investor Activism

Analysts and Activist Interventions

The ability of analyst recommendations to predict future returns and other value-relevant events has been widely studied (Givoly and Lakonishok 1980; Womack 1996). Barber, Lehavy, McNichols, and Trueman (2001) show that a long-short trading strategy that buys (shorts) stocks with the most (least) favorable recommendations earns abnormal returns of 9% per year with daily rebalancing. Howe, Unlu, and Yan (2009) find that changes in aggregate analyst recommendations predict one-quarter-ahead earnings growth and future excess returns at the firm and industry-level. Clarke, Ferris, Jayaraman, and Lee (2006) find that stock recommendations are more pessimistic for firms that later file for bankruptcy. These studies suggest that analysts' stock recommendations are informative about companies' future prospects. Accordingly, to the extent that analysts perceive an improvement (deterioration) in the prospects of targets after the announcement of an activist intervention, we expect the average recommendation to be more favorable (unfavorable) in the post-intervention period. However, even if activism is beneficial, recommendation levels may not return to pre-intervention levels if the positive market reaction around the announcement date fully captures any increase in enterprise value. This expectation forms the basis of our first hypothesis, stated in the null:

H1: Activist interventions are unrelated to future changes in analyst recommendations.

Short Sellers and Activist Interventions

Studies have found short sellers to be informed traders who, in a variety of settings, are able to anticipate future declines in shareholder value. Diether, Lee, and Werner (2009) find that short sellers increase their trading following positive returns and high levels of short selling are followed by negative returns, consistent with short sellers trading on a short-term, stock price overreaction. Ben-David, Drake, and Roulstone (2015) show that high short interest proxies for overvaluation in an acquisition. They find that stock (cash) acquirers have high (low) short interest and that stock acquirers with the highest short interest underperform the market in the post-announcement period. Liu and Swanson (2016) find that companies that increase share buybacks and experience a concurrent increase in short interest subsequently report a sharp decline in return-on-assets. In light of these findings, if a positive market reaction to activism announcements causes target companies to be overvalued, we expect short interest to increase in the post-intervention period. On the other hand, if the stock is undervalued or fairly valued after the activist announcement, we expect short interest to decline or remain unchanged in the post-intervention period. These competing expectations form the basis of our second null hypothesis:

H2: Activist interventions are unrelated to future changes in short interest.

Firm Fundamentals around Activist Interventions

A number of studies examine the effect of investor activism on targets' operating performance. Commonly used measures include return on assets (ROA), return on equity (ROE), and Tobin's Q.[6] While some studies find increases in, say, ROA (Brav, Jiang, Partnoy, and Thomas 2008; Boyson and Mooradian 2011), others find no significant change (Klein and Zur 2011; Gantchev, Gredil, and Jotikasthira 2016). Critics have argued that, because changes in these variables can be driven by a numerator or denominator effect (or both), any improvement along these dimensions may be the result of balance-sheet engineering (e.g., share buybacks that reduce equity or asset divestitures that reduce assets). Thus, firms that underinvest can report better short-term operating performance at the expense of long-term performance. In response to those criticisms, we use a broader measure of firm fundamentals than used in prior research. Our measure, the *FScore*, incorporates nine signals of operating performance used in financial statement analysis. Given the mixed results found in prior literature, we state our hypothesis on the relation between activist interventions and firm fundamentals in the null:

H3: Activist interventions are unrelated to future changes in firm fundamentals.

[6] ROA and Tobin's Q have been criticized as being subject to considerable measurement error (Allaire and Dauphin, 2014; Dybvig and Warachka, 2015). This controversy motivates our use of the *FScore*, which incorporates ROA and several other accounting measures.

Ownership by Short- and Long-Horizon Institutional Investors and Activist Interventions

One avenue through which activism may impact target firm value is through its effect on managerial myopia. Critics contend that activism encourages management to take actions that benefit earnings in the short-term at the expense of long-run enterprise value. Prior studies have investigated this claim by examining the effect of activism on future capital investment, shareholder payouts (which reduce funds available for future investment), R&D spending, and innovation (e.g., Bebchuk, Brav, and Jiang 2015; Brav, Jiang, and Kim 2015; Brav, Jiang, Ma, and Tian 2016). Ex ante, it is unclear whether these actions are beneficial or detrimental to long-term value without knowledge of the target firm's pre-intervention optimal level of investment. For example, Brav, Jiang, Ma, and Tian (2016) find that, despite post-intervention decreases in R&D spending, target firms actually experience an increase in innovation output (measured as patent and citation counts). Similarly, in an analysis of productivity at manufacturing plants owned by activist targets, Brav, Jiang, and Kim (2015) find that, despite a post-intervention decline or stagnation in the number of workers, hours per worker, and the average wage at plants owned by targets, both plant productivity and labor efficiency increase in the wake of an activist intervention. These examples indicate that a decrease in capital expenditure does not necessarily mean that activist interventions result in an undue focus on short-term performance at the expense of long-term value.

We employ an alternative method of investigating whether activism induces managerial short-termism by examining how activist interventions influence ownership by investors with different investment horizons. If activists pressure managers to take

actions that are primarily short-term oriented, such behavior may discourage ownership by investors with a long-term focus. We use the Bushee (2001) classification that categorizes institutional investors as dedicated, transient, or quasi-indexers. Bushee (2001) shows that investors with the greatest incentive to prefer near-term earnings over long-run value (i.e., transient investors who hold investments for a short time) do, in fact, exhibit such a preference. Chen, Harford, and Li (2007) provide evidence that dedicated institutions perform a monitoring role of gathering information and attempting to influence managers to avoid bad corporate acquisitions. Ramalingegowda (2014) shows that dedicated institutional investors trade in advance of an event that signifies a *persistent* (i.e., beyond the institutions' trading horizon) loss in firm value, namely, corporate bankruptcy. In light of these findings, if critics are correct in arguing that activism induces short-termism at target firms at the expense of long-term enterprise value, we expect ownership by dedicated institutional investors to decline in the post-intervention period. Dedicated institutional ownership would be expected to increase if activism encourages managerial decisions that are expected to increase the long-term value of target firms by more than the change in market capitalization around the intervention announcement. We state our hypothesis on the relation between activist interventions and dedicated institutional ownership in the null:

> **H4:** Activist interventions are unrelated to future ownership by dedicated institutional investors.

Transient institutional investors are likely to be attracted by any price increase around the public announcement, since momentum influences their trades. Assuming the effects

of activism are likely to show up only gradually over time (as suggested by Gillan and Starks 2007, p. 66), transient investors are likely to reduce their ownership after the announcement in order to deploy their capital elsewhere. As a result, transient institutional ownership provides little information about whether the announcement price increase is permanent or transitory. Therefore, we do not hypothesize a relation between activist interventions and ownership by transient institutional investors. Nevertheless, we report the response of transient institutional owners so their response can be compared to dedicated institutional owners.

Sources of Data and Variable Measurement

Activist Data

We use two sources to obtain information about activist events: SharkRepellent.net and Thomson One. Produced by Factset, SharkRepellent is a corporate governance database that offers real-time and historical coverage of companies' takeover defense strategies, as well as information about investor activism campaigns, proxy proposals, and proxy fights. The information about activist campaigns includes the campaign announcement date, the purpose of the campaign, and the activist's level of ownership at the time of the announcement. We were allowed a one-time download that includes activism events from the mid-80s through early 2013. We also obtained activism events from Thomson One, whose coverage spans from 2000 to the present. From these two sources, we obtained the date of the activism announcement, whether the activist is prominent, and the activist's objective.

Previous studies on shareholder activism have relied predominantly on hand-collected samples from Schedule 13D filings (e.g., Brav, Jiang, Partnoy, and Thomas 2008; Greenwood and Schor 2009; Bebchuk, Brav, and Jiang 2015; Cheng, Huang, and Krishnan 2015; Partnoy, and Thomas 2016). A limitation of 13D filings is that the 5% ownership threshold for filing means that activism announcements by investors owning less than 5% of outstanding shares are generally not included in 13D-based samples.[7] This limitation is not trivial: Of the 3095 activism events in the SharkRepellent sample with information related to the activist's ownership percentage, 551 (about 18%) have ownership levels less than 5% at the time of the announcement. Given that the amount of capital required to obtain 5% ownership increases with firm size, 13D-based samples omit many of the most economically important activist interventions.

An important advantage of our two sources of activist events is the relatively large sample size they offer. Because of the time involved in hand collection, sample sizes in prior studies vary significantly but are commonly under 2000 observations. We are able to match firm identifiers to 4871 activist campaigns, covering 2652 unique firms, over the period from 1994 to 2014. This sample allows a relatively comprehensive analysis of the effect of shareholder activism over the past two decades.[8] While our

[7] For example, when Carl Icahn sent a letter to Tim Cook on October 24, 2013 urging the Apple CEO to consider a $150 billion share buyback, Icahn's ownership of 4.7 million shares amounted to less than 1% of Apple's outstanding shares. Similarly, when Nelson Peltz's Trian Fund announced its $2.5 billion position in General Electric and its campaign to persuade GE management to consider a share repurchase program, the hedge fund became one of the company's top 10 shareholders, despite owning roughly 1% of shares outstanding (Benoit and Mann 2015). We searched through filings for several CIKs registered by Icahn and Peltz with the SEC and are unable to find 13D filings for either campaign.

[8] In all analyses, we use the maximum number of observations with the data needed for that analysis. The 4871 activist events therefore represent an upper bound on the number of observations for any given

sample likely captures a greater number of activism events, the tradeoff is that we have less information about the construction of the sample compared to a hand-collected sample.[9] However, potential bias from a focus on "prominent" activists does not seem to be a problem, since the results for that subsample are very similar to our reported results.[10] Table 1 summarizes the sample selection process.

Other Data

We use I/B/E/S's monthly recommendation file to obtain the average monthly recommendation level for a given firm (*Meanrec*). As constructed by I/B/E/S, the values range from 1 to 5 with lower numbers reflecting more favorable recommendations. We reverse the scale (1 = strong sell … 5 = strong buy) so that higher values of *Meanrec* reflect more favorable recommendations. We also use I/B/E/S to construct a measure of analyst following based on the number of unique analysts that make a quarterly or annual earnings forecast during the fiscal year.

analysis. Note that all reported results are qualitatively similar if we use a subsample containing a fixed set of observations over the event window.

[9] In personal communications, Thomson One representatives state that campaigns are identified from "proxy fights, public shareholder proposals, public letters to management, press releases, and selected SEC filings."

[10] We classify an activist as prominent if it is included in SharkRepellant's SharkWatch 50 or Thomson One's "Prominent Activist" search option. We do not report these results separately to reduce the length of the paper.

Table 1. Activism Campaign Sample Selection

Sample Criteria	Shark Repellant 1984 - 2013	Thomson One 2000 – 2014	Activist Events
All Activism Events	5116	2285	7401
Less: Events for firms with no PERMNO	(1462)	(529)	(1991)
Less: Overlapping Events			(539)
Maximum available			4871

This table summarizes the sources used to identify activist events and the maximum number of activism events available for analysis, with 409 involving a proposal to sell all or part of the target company. The following categories from each dataset are classified as sale campaigns:

- Shark Repellant: Hostile/Unsolicited Acquisition
- Thomson One: Force Sale, Hostile Acquisition

We obtain monthly short selling data from Compustat. Prior to 2007, the stock exchanges compiled short interest once per month with the settlement date on the 15th day of the month or the closest trade date preceding the 15th. Starting in 2007, short interest is also compiled for a month-end settlement date. To be consistent throughout our sample period, we use only mid-month short interest. We calculate the short interest ratio, *Shortint*, for a given firm as the number of shares sold short as of the settlement date, scaled by shares outstanding. Stock market data and shares outstanding are obtained from CRSP, and the Fama-French risk factors used to calculate abnormal returns are from WRDS.[11]

We obtain the financial statement items used to calculate *FScores* and other control variables from Compustat. Piotroski (2000) developed the *FScore* as a way to distinguish between underpriced and overpriced high book-to-market ("value") firms using accounting information. Underperforming value firms are the types of firms most likely to be targeted by an activist (Brav, Jiang, Partnoy, and Thomas 2008). *FScore* uses nine financial signals to capture three characteristics: corporate performance, changes in leverage and liquidity, and changes in operating efficiency. By including nine signals, *FScores* are representative of the types of information that would be obtained from financial statement analysis. Appendix B describes each of the nine components and how they are calculated.

[11] The risk factors are also available at Ken French's website:
http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Institutional ownership is reported quarterly and obtained from Thomson Reuters. We use data available on Bushee's website to classify institutions according to their investment horizon.[12] Bushee (1998) classifies institutional investors as transient, dedicated, or quasi-indexers. We are interested in whether an activist intervention triggers changes in the investment horizon of informed owners. Therefore, we ignore quasi-indexers, who are less likely to trade in response to the disclosure of value-relevant information. We calculate two variables, *Own_Ded* and *Own_Tran*, as the total number of shares owned by dedicated or transient institutional investors at quarter-end, each scaled by shares outstanding. We report both measures of institutional ownership, although we are primarily concerned with *Own_Ded*.

Research Design

Returns-based Tests

We use returns-based tests that are similar to those in prior research. First, we examine target firms' cumulative abnormal returns (CARs) in the [-10, 5] trading-day window around the activism announcement date. Activists have 10 days after obtaining 5% ownership to file Form 13D, so this window includes the market reaction on the date the activist reaches 5% ownership (Lilienfeld-Toal and Schnitzler 2014). It also includes returns arising from share purchases by other institutional investors, including those tipped off by an activist about the planned intervention. Such tipping is legal but

[12] http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html

controversial.[13] The abnormal return for target firm *i* on day *t* in the event window is calculated as the firm's actual return less its expected or "normal" return. We estimate firm *i*'s expected (normal) return in two steps. First, using data for trading days [-120, -21] relative to the activist announcement, we regress firm *i*'s excess returns (above the risk-free rate, $R_{f\tau}$) on three risk factors described in Fama and French (1993):

$$R_{i\tau} - R_{f\tau} = \alpha_i + \beta_{1i}\left(R_{m\tau} - R_{f\tau}\right) + \beta_{2i}HML_\tau + \beta_{3i}SMB_\tau + u_{i\tau}$$

$R_{m\tau}$-$R_{f\tau}$ is the market excess return on day τ, and HML_τ and $SMB\tau$ are the book-to-market and size factors on day τ, respectively. Next, we use the coefficients from this regression to calculate firm *i*'s expected or normal return on day *t*. Cumulative abnormal returns for firm *i* on day *t* are simply the cumulative sum of firm *i*'s abnormal returns during the window. We perform an analogous long-run analysis. We estimate loadings of monthly excess returns on monthly Fama-French factors over the [-37, -2] month window, which we use to calculate cumulative abnormal returns over the [-1, 24] month window. In addition to pooled analyses, we conduct subsample analyses based on the different types of activist demands, as described in Appendix C.

Propensity-Score Matching

Given that activism is a choice, it is possible that the characteristics of the companies targeted by activists drive any differences in performance observed after an

[13] The term "wolf pack" is used to describe the situation when a lead activist recruits other activist investors prior to filing Schedule 13D. The practice is controversial due to its resemblance to insider trading in that the information is material and nonpublic. The practice is not illegal, however, because the activist does not breach a fiduciary or other duty because the activist's investors benefit (Coffee and Palia (2016, 30).

intervention. Indeed, some critics argue that activists are simply better at identifying firms that are ripe for a turnaround, irrespective of the activists' engagement with the firm. We therefore compare activist targets to a propensity-score matched sample of firms with similar pre-intervention characteristics. Target firms are matched to control firms in the fiscal year prior to the activism announcement. A detailed description of the matching procedure is presented in Appendix D.

For our main tests, the event window covers the two years before and two years after the activist announcement in order to address the allegation that activism results in short-term improvements at the expense of long-term value. This length of time balances the tradeoff between having a long event window and the reduction of sample firms that occurs over time. The two-year, post-intervention period also satisfies the specific call by activist critics to evaluate the impact of activism, "not just in the short period after announcement of the activist interest, but after a 24-month period." (Lipton 2013a).

Analyst Response to Investor Activism

We run the following two regressions to examine monthly changes in analyst recommendations around the activist announcement, with firm subscripts omitted for brevity:

$$Meanrec = \beta_0 + \beta_1 Activist + \beta_2 Evttime_{-24,-1} + \beta_3 Activist * Evttime_{-24,-1} + YearFE + IndFE \quad (1a)$$

$$Meanrec = \beta_0 + \beta_1 Activist + \beta_2 Evttime_{1,24} + \beta_3 Activist * Evttime_{1,24} + YearFE + IndFE \quad (1b)$$

Our hypotheses focus on the post-announcement period (Equation 1b), but the pre-announcement period allows us to determine whether a trend observed after the announcement was already underway. Rather than include each month as a separate variable, which would require dozens of month-indicator variables and their interactions with the *Activist* indicator, we use a more parsimonious model that uses *Evttime*. This variable takes a value from -24 to -1 in Equation 1a and from 1 to 24 in Equation 1b. The tradeoff for parsimony is that the change must be linear to be statistically significant, which works against rejecting our hypothesis. Both pre- and post-intervention models include year and industry fixed effects and standard errors clustered at the firm level.

The control firms chosen using propensity-score matching proxy for the counterfactual of how analysts would have responded absent an activist campaign. Coefficient β_1 is an intercept adjustment, and coefficient β_3 represents the incremental slope, or monthly change in the recommendation level, of activist targets over control firms. The target firm's response to the activist's demand may take time, so the main coefficient of interest is β_3. A positive (negative) coefficient would indicate that, as analysts obtain information about the target's response, they recommend the target company's stock more (less) favorably than they would have absent an activist campaign. Since the average stock price increases at the announcement, a more favorable post-announcement recommendation indicates analysts believe the price reaction to the announcement does not overstate firm value.

Short Seller Response to Investor Activism

To investigate whether activism influences short sellers' perceptions about target firms' future prospects, we modify Equations 1a and 1b to use short interest as the dependent variable:

$$Shortint = \beta_0 + \beta_1 Activist + \beta_2 Evttime_{-24,-1} + \beta_3 Activist * Evttime_{-24,-1} + YearFE + IndFE \quad (2a)$$

$$Shortint = \beta_0 + \beta_1 Activist + \beta_2 Evttime_{1,24} + \beta_3 Activist * Evttime_{1,24} + YearFE + IndFE \quad (2b)$$

As with analyst recommendations, we are primarily interested in the response to activism beyond the level that would be predicted absent an activist campaign, so the main coefficient of interest is β_3. A positive (negative) coefficient for β_3 in Equation 2b would indicate that short sellers believe (do not believe) the stock is overvalued after the market reaction to the intervention announcement.

Investor Activism and Changes in Firm Fundamentals

We measure firm fundamentals annually, so the model for pre- and post-intervention differences in *FScores* uses individual-year indicator variables (instead of *Evttime*). To examine pre- and post-intervention differences in fundamentals, we run the following two regressions:

$$Fscore = \beta_0 + \beta_1 Activist + \beta_2 Year_{t-1} + \beta_3 Activist * Year_{t-1} + \beta_4 Year_t + \beta_5 Activist * Year_t + YearFE + IndFE \quad (3a)$$

$$Fscore = \beta_0 + \beta_1 Activist + \beta_2 Year_{t+1} + \beta_3 Activist * Year_{t+1} \quad (3b)$$

$$+\beta_4 Year_{t+2} + \beta_5 Activist * Year_{t+2} + YearFE + IndFE$$

The *Year* variables are indicator variables that equal one when the observation takes place during the year denoted by the subscript, with year *t* as the announcement year. Our primary interest is in the coefficients β_3 and β_5 during the post-intervention period (Equation 3b), where a positive (negative) value would indicate the financial performance of target firms has increased (decreased) compared to control firms.

Ownership by Short- and Long-Horizon Institutional Investors and Activism

Our analysis of ownership by institutional investors uses a linear time trend variable that is analogous to the recommendation and short interest models. The difference, apart from the dependent variables used (dedicated or transient), is that the *Evttime* variable corresponds to a given quarter, instead of month, relative to the activism announcement. The pre-intervention period extends from quarter -7 to quarter 0, the last calendar quarter before the activism announcement. The post-intervention period extends from quarter 1 to quarter 8.

$$Own\_Ded[Own\_Tran] = \beta_0 + \beta_1 Activist + \beta_2 Evttime_{-7,0} + \beta_3 Activist * Evttime_{-7,0} + YearFE + IndFE \quad (4a[c])$$

$$Own\_Ded[Own\_Tran] = \beta_0 + \beta_1 Activist + \beta_2 Evttime_{1,8} + \beta_3 Activist * Evttime_{1,8} + YearFE + IndFE \quad (4b[d])$$

Like our short-interest and recommendation tests above, we are primarily interested in the coefficient on β_3 during the post-intervention period, which measures the difference in ownership for activist targets relative to control firms after the activist announcement.

Results

Market Reactions to Investor Activism

Figure 2 displays cumulative abnormal returns in the [-10, 5] trading-day window around the activism announcement date.[14] Consistent with other studies (e.g., Brav, Jiang, Partnoy, and Thomas 2008; Greenwood and Schor 2009), Panel A shows a sizable abnormal return in the days surrounding the announcement (about 4.5%). Similar to the finding in Greenwood and Schor (2009), Panel B reveals that the average return is much larger (about 17%) for campaigns to put the company (or part of it) up for sale. The return for the other (non-sale) campaigns is about 3.5%, which is still sizable for a 16-day period. Panel C shows that the average returns for first and second wave of activism are very similar. This result is surprising, given the large number of new activists (as discussed previously and displayed in Figure 1).

[14] When measuring abnormal returns, some studies calculate buy-and-hold abnormal returns (e.g., Brav, Jiang, Partnoy, and Thomas 2008) whereas others calculate cumulative abnormal returns (e.g., Greenwood and Schor 2009). In short windows (e.g., less than one year), differences between the two measures are negligible (Kothari and Warner 1997), and in our setting, all inferences are the same, regardless of the return aggregation method used.

Figure 2. Short-Window Cumulative Abnormal Returns around Activism Announcements

Panel A: All Activist Announcements

Panel B: for Sale vs. Non-Sale Activist Announcements

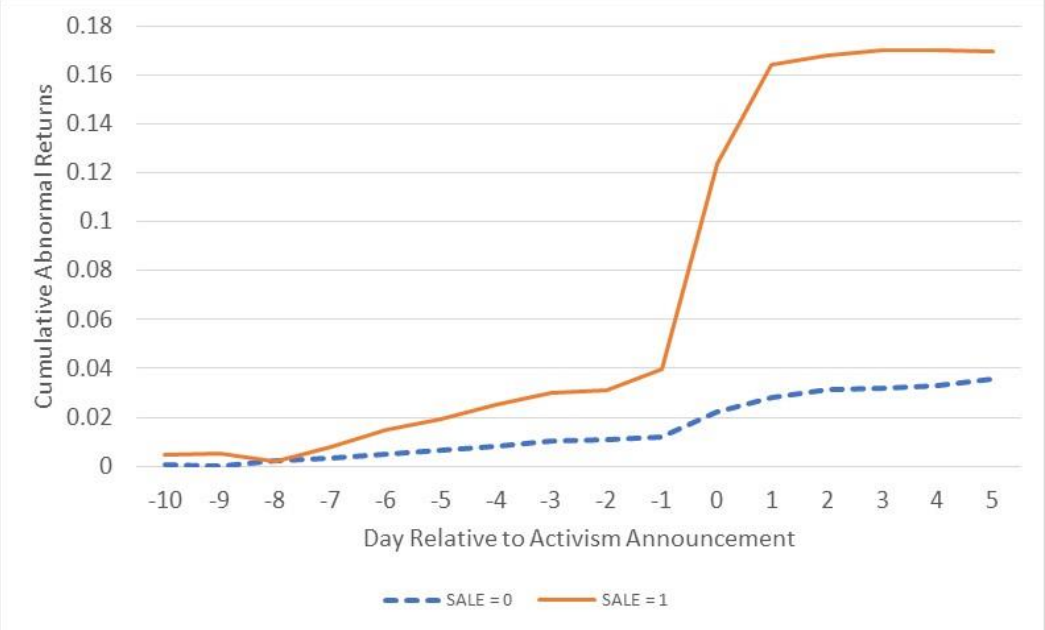
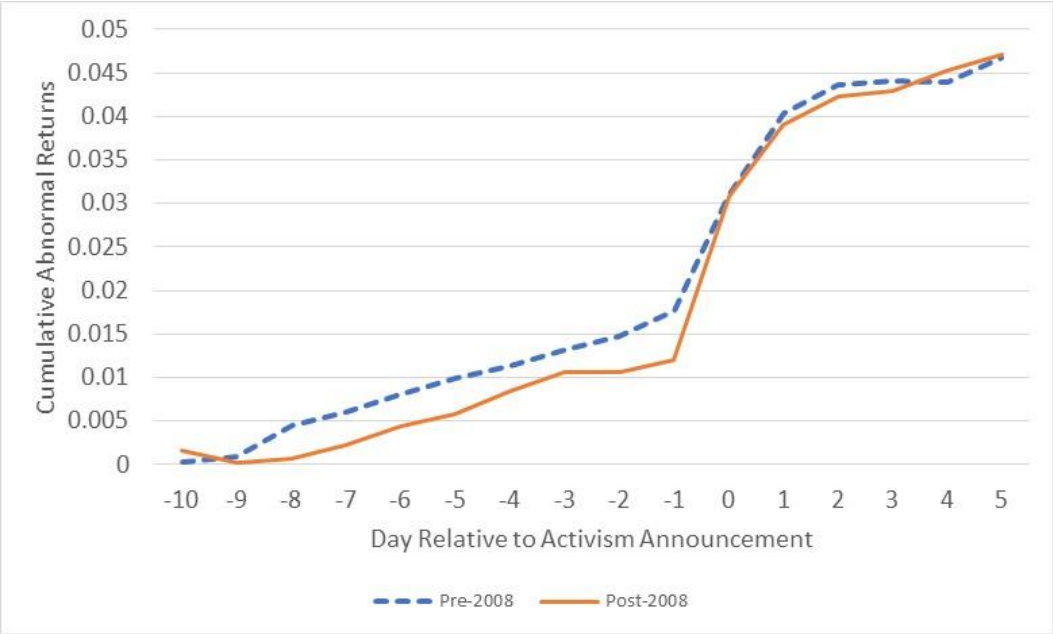


Figure 2 Continued

Panel C: First and Second Waves of Activist Announcements



The figures plot cumulative abnormal returns for the [-10, 5] trading-day window around activism announcements for the pooled sample of all activist announcements. Panel B separates the returns into instances in which activists demand a sale of all or a portion of the target firm compared to all other instances. Panel C plots returns separately for interventions announced from 1994 to 2007 and from 2008 to 2014. Abnormal returns for firm *i* on each day *t* in the [-10, 5] day event period are calculated as firm *i*'s total returns on day *t* less its expected return on day t. Expected returns are calculated using the Fama and French (1993) 3-factor model. Specifically, daily excess returns for firm *i* are regressed on the daily market excess return, a book-to-market factor (HML) and a size factor (SMB) for days [-120, -21] in the preannouncement period. Parameter estimates from this regression are multiplied by day *t*'s risk factors to create expected or normal return.

Table 2 reports the statistical significance of the returns displayed in Figure 2. The cumulative returns for the full sample (all events) become statistically significant about 7 days prior to announcement day 0 (*t*-value = 2.66). This finding could result from some activists filing SEC Form 13D prior to the 10-day deadline, or some traders may learn that an activist is accumulating an ownership position (possibly creating a "wolf pack"). Despite the upward drift in price, most of the price reaction occurs on the six days beginning with announcement day 0. The average returns over the full 16-day window are highly statistically significant for all activist events (4.63%), for interventions involving a sale of assets (16.95%), and for non-sale events (3.48%). This last result differs from the insignificant returns reported by Greenwood and Schor (2009) for non-sale events between 1993 and 2006. The magnitudes of these returns are striking, as even the smallest return (3.48% for the non-sale events) is almost 50% annualized.[15] Table 2, Panel B, provides a breakdown by type of non-sale event reported in the 13D filing. The largest return for non-sale events is for interventions involving corporate strategy, at 6.69%, a category that includes a return of capital by increasing stock buybacks. This category also includes 89 campaigns for a corporate spinoff from the Thomson One database.

[15] We note that the positive returns could result from the actions demanded by the activist or from actions that managers take that differ from the activist demands. For example, Nelson Peltz's Trian Fund Management was unsuccessful in a campaign to break up the beverage and snack businesses of PepsiCo Inc., but the fund still earned a substantial profit when management responded to "intense pressure" from the activist and improved operating results by cost cutting (Benoit and Esterly 2016).

Table 2. Short-Window Returns around Activism Announcements

Panel A: All Events with Dichotomy into Sales vs. Non-Sales Events

	All events		Sale		Non-Sale	
Day	CAR (%)	*t*-stat	CAR (%)	*t*-stat	CAR (%)	*t*-stat
-10	0.13	1.15	0.48	2.11	0.10	0.81
-9	0.05	0.56	0.54	1.92	0.01	0.06
-8	0.22	1.79	0.22	0.57	0.22	1.70
-7	0.37	2.66	0.78	1.67	0.33	2.27
-6	0.57	3.75	1.52	2.66	0.48	3.06
-5	0.69	3.23	1.94	3.25	0.58	2.54
-4	0.94	5.27	2.50	3.85	0.79	4.29
-3	1.12	5.11	2.98	4.54	0.95	4.09
-2	1.14	3.50	3.08	4.54	0.96	2.74
-1	1.28	2.45	3.99	5.67	1.03	1.81
0	2.99	7.94	12.39	12.63	2.12	5.31
1	3.87	9.55	16.43	15.58	2.70	6.31
2	4.20	11.21	16.79	15.86	3.03	7.71
3	4.25	10.61	16.98	15.89	3.07	7.26
4	4.38	10.70	16.99	15.85	3.20	7.42
5	4.63	13.02	16.95	15.83	3.48	9.39

Table 2 Continued

Panel B: Breakdown by Type of Non-Sale Event

	Board Composition		Engage Management		Corporate Strategy		Corporate Governance		Other	
Day	CAR (%)	*t*-stat	CAR (%)	*t*-stat	CAR (%)	*t*-stat	CAR (%)	*t*-stat	CAR (%)	*t*-stat
-10	0.23	0.82	0.02	0.19	0.15	0.52	-0.31	-1.72	-0.13	-1.05
-5	0.23	0.50	0.66	2.37	2.05	3.90	0.59	1.33	0.04	0.12
-4	0.41	1.47	0.88	3.07	2.28	4.26	0.76	1.70	0.05	0.13
-3	0.47	1.11	1.07	3.36	2.87	4.85	0.92	2.00	0.10	0.25
-2	0.36	0.46	1.10	3.18	3.14	4.59	1.22	2.40	0.13	0.33
-1	0.00	0.00	1.45	4.06	4.17	5.62	1.45	2.58	0.23	0.50
0	1.54	1.70	2.42	6.53	5.55	6.91	2.54	3.99	0.41	0.87
1	2.13	2.19	3.19	8.34	6.13	7.83	3.14	4.79	0.25	0.48
2	2.67	3.07	3.45	8.69	6.39	8.35	3.46	5.00	0.54	1.06
3	2.79	2.94	3.43	8.41	6.53	8.26	3.65	4.93	0.78	1.50
4	3.00	3.10	3.51	8.39	6.72	8.50	3.74	4.92	1.01	1.90
5	3.38	4.31	3.92	9.35	6.69	8.04	3.74	4.72	0.91	1.70

This table presents short-window returns around activism announcements. Panel A presents cumulative abnormal returns (CARs) for target firms over the [-10, 5] day window around the activist announcement. CARs are shown for all activist announcements, those demanding a sale of all or part of the company (Sale=1), and all other, non-sale events (Sale=0). Panel B presents cumulative abnormal returns (CARs) for target firms over the [-10, 5] day window around the activist announcement. CARs for various activist demands are shown for all non-sale activist announcements (SALE=0). Thus, Panel B is an expanded, more granular analysis of the rightmost subsample analyzed in Panel A.

See Appendix C for descriptions of the various types of activist demands.

The returns to interventions related to board composition, corporate governance, or engaging management are similar, ranging from 3% to 4%. Appendix C provides information about the specific types of events included in each category.

Critics argue that the positive short-window returns to activist interventions are short-term and likely to reverse over a longer period. To investigate this possibility, we calculate CARs from one month prior to the intervention to 24 months afterward. In untabulated results, we find the CARs are positive, sizable, increase monotonically, and are highly statistically significant. Averaged across all events, the cumulative return is 11.57% from month -1 to month 24. The sale and non-sale events are 22.67% and 10.51%, respectively. Returns are positive for each type of non-sale event and are above 10% for the categories of board composition, engage management, and corporate strategy. The returns for corporate governance and a catch-all category of "other" activist demands are statistically indistinguishable from zero. In sum, long-window returns provide no evidence of a reversal of the short-window returns; instead, the returns increase over the next 24 months.

Although we find statistically significant positive long-window returns, Lyon, Barber, and Tsai (1999) argue that "analysis of long-run abnormal returns is treacherous" and Kothari and Warner (1997) contend that conclusions drawn from long-window analyses "require extreme caution." Motivated, in part, by the empirical shortcomings of long-window-return tests, we examine how various market participants who invest heavily in information acquisition and interpretation—short sellers, analysts, and institutional investors—respond to activist interventions.

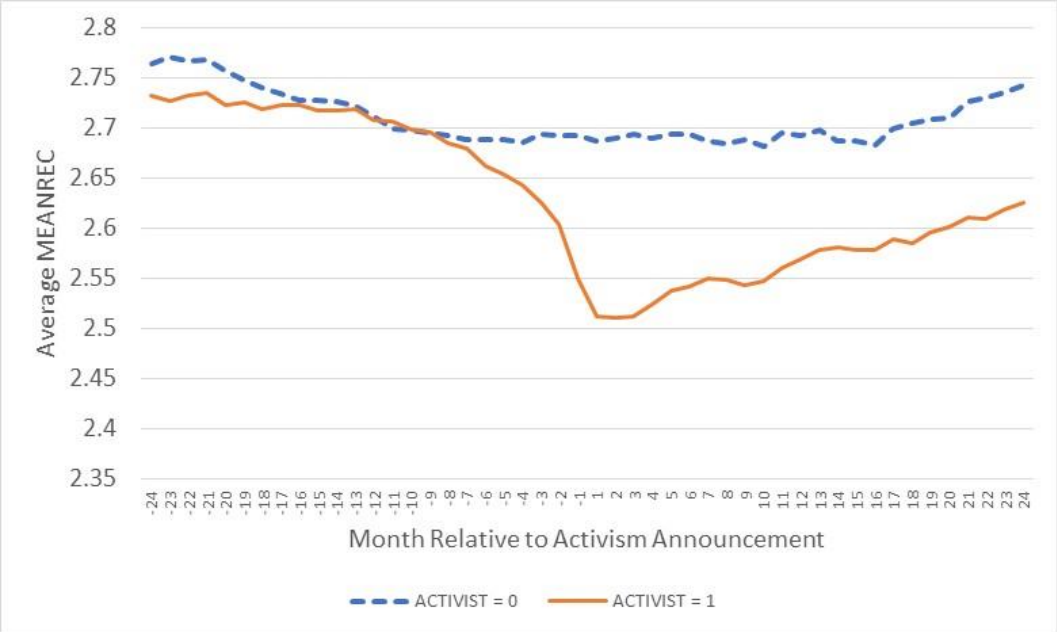
Analyst Response to Investor Activism

Figure 3, Panel A, displays the average analyst recommendation, *Meanrec*, beginning 24 months prior and ending 24 months after the activist announcement. The average recommendation for target firms and their matched control counterparts is similar until about six months before the activist announcement. At that point, recommendations for targeted firms decline sharply (becoming less favorable), and this decline continues until the month of the activist announcement, indicating that analysts do not expect the company's prospects to improve prior to the intervention. The average recommendation then stabilizes for a few months (as analysts digest the implications of the intervention) and then improves throughout the remainder of the post-intervention period.[16] To provide insight into the nature of the recommendation change, we plot the frequency of buy recommendations in Panel B of Figure 3. The trend for *Buypct* is very similar to the trend for *Meanrec*. In untabulated analyses, we find that the pre-intervention deterioration in the mean recommendation relative to control firms is driven by recommendation downgrades from buy to hold, and the post-intervention improvement is driven by upgrades from hold to buy. Sell recommendations change very little.

[16] The average recommendation is slightly lower at the end of the test period than at the start. This is not surprising because the stock price usually increases substantially around the announcement of an activist share purchase. The important finding is that the average recommendation increases significantly after the activist intervention.

Figure 3. Analyst Recommendations around Activism Campaigns

Panel A: Mean Recommendation Levels for All Campaigns



Panel B: Prevalence of Buy Recommendations for All Campaigns

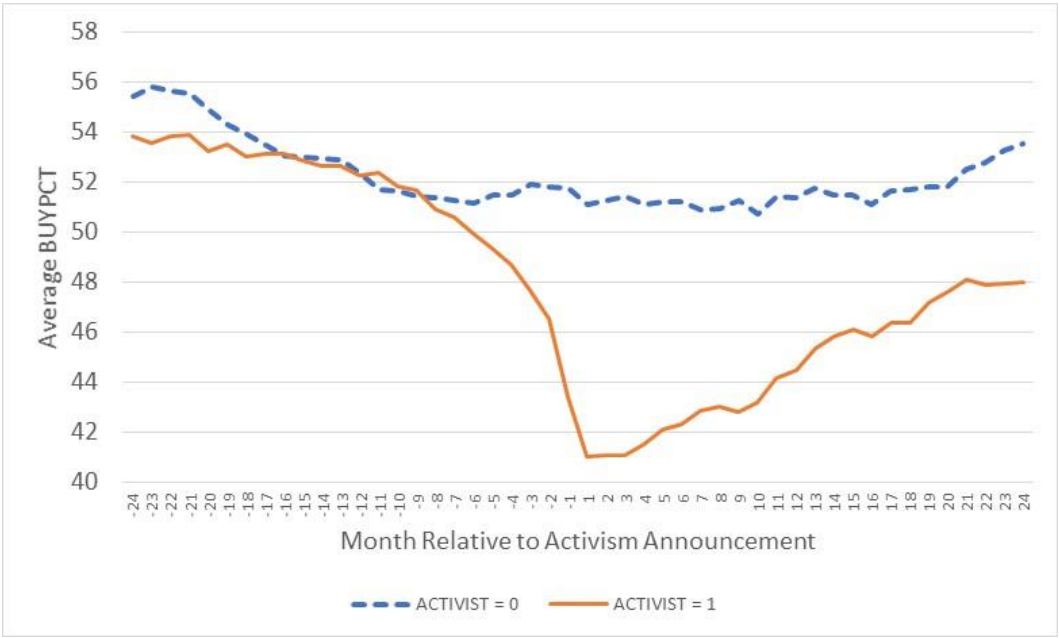


Figure 3 Continued

Panel C: Mean Recommendation Levels for Sale Campaigns

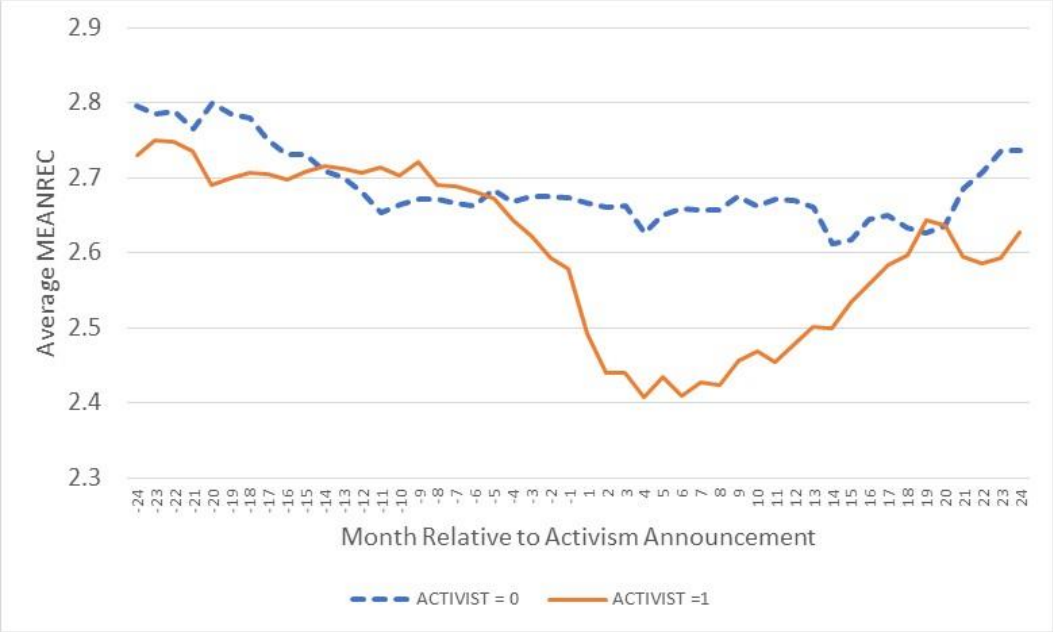
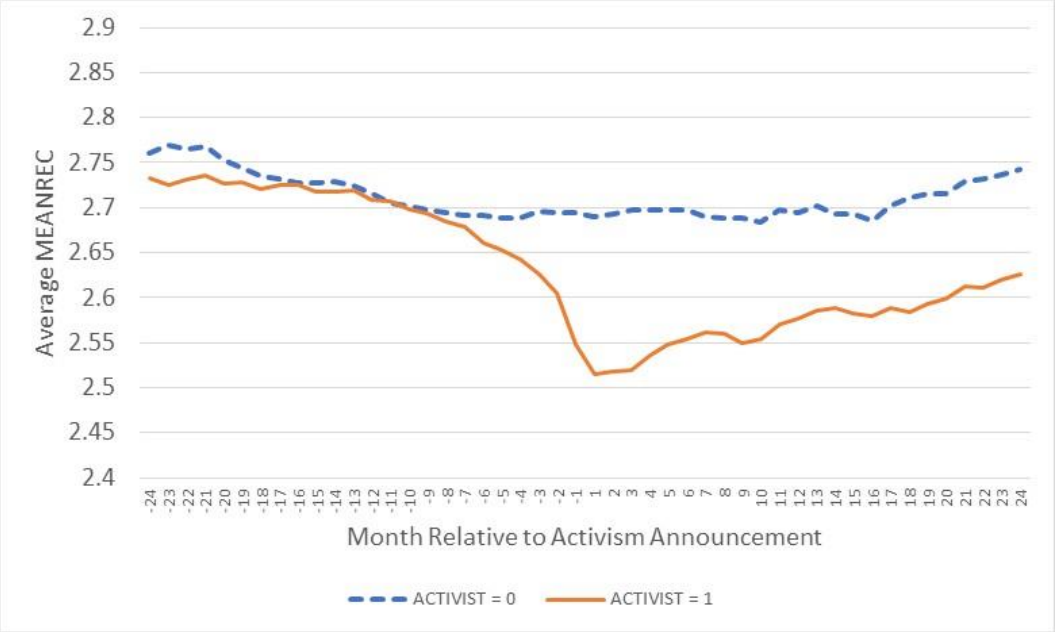


Figure 3 Continued

Panel D: Mean Recommendation Levels for Non-Sale Campaigns



Panel A plots average monthly recommendation levels for activist targets and control firms on a scale of 1 to 5 with higher numbers for *Meanrec* more favorable. Panel B reports buy recommendations as a percentage of total recommendations. Panel C plots average monthly recommendation levels for target and control firms for activist campaigns that seek a sale of all or a portion of the target firm. Panel D plots average monthly recommendation levels for target and control firms for all other, non-sale campaigns.

Table 3 reports the results for the model used in hypothesis testing. In the pre-intervention period, the coefficients on *Activist* and *Evttime* are negative and statistically significant, but the interaction term between the two variables is insignificant. This indicates that, although Figure 3 shows a steeper decline in recommendations for target firms in the six months prior to the intervention, the incremental difference in slopes is insignificant over 24 months. After the activist intervention, the coefficient on *Activist*Evttime* changes to positive and is statistically significant (see shaded area). This is an important result, as it shows that analysts view stock in the target firms more favorably after the activist intervention.

We also plot changes in recommendations for two subsamples: campaigns that seek a sale of all, or part, of the company (Figure 3, Panel C) and those that do not involve a sale (Figure 3, Panel D). For both subsamples, the average recommendation declines in the pre-intervention period and improves in the post-intervention period. However, the decline and subsequent improvement in recommendations are greater for sale than for non-sale campaigns. The favorable recommendation for sale firms is especially notable because it occurs after the average stock price has increased about 17% around the activist announcement.

Table 3. Pre- and Post-Intervention Changes in Mean Analyst Recommendations

Variables	Equation 1a Pre-intervention	Equation 1b Post-intervention
Activist	-0.0510**	-0.174***
	(0.0227)	(0.0251)
Evttime	-0.00401***	0.00157
	(0.000860)	(0.00102)
*Activist*Evttime*	-0.00193	0.00329**
	(0.00126)	(0.00150)
Constant	3.364***	2.986***
	(0.0877)	(0.253)
N	122,922	87,088
Adjusted R-squared	0.038	0.043
Year Fixed Effects	YES	YES
Industry Fixed Effects	YES	YES
Cluster by firm	YES	YES
Event Window (Months)	[-24, -1]	[1, 24]

This table presents the results of estimating Equations 1a and b. Equation 1a estimates the change in analyst recommendations in the pre-intervention period, and Equation 1b estimates the change in the post-intervention period.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides the variable definitions.

Based on the results presented in Figure 3 and Table 3, we reject H1: "Activist interventions are unrelated to future changes in analyst recommendations." Instead, empirical evidence shows that analysts view activist interventions as increasing long-term equity value.

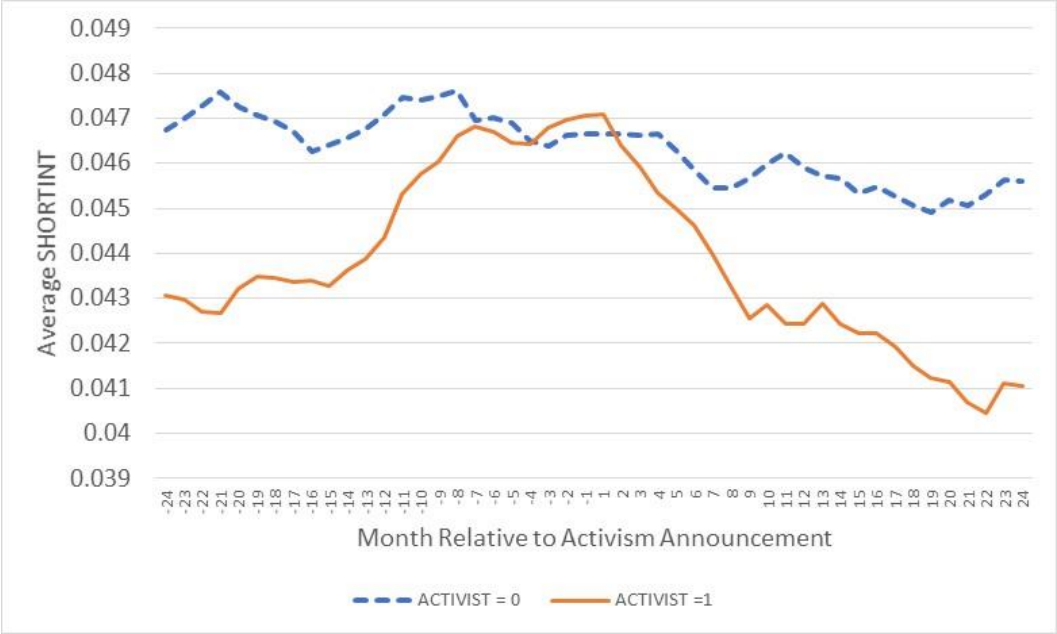
Short Seller Response to Investor Activism

Figure 4, Panel A, displays the short interest ratio (short interest deflated by shares outstanding) for target and control firms in the 48 months surrounding the activist intervention.[17] Short interest is initially lower for the target firms than control firms; however, it increases during the 12 months leading up to the activist share purchase until it is similar to control firms. Starting in the month of the intervention, short interest in the target firms begins a sharp decline, reaching a new low. Short sellers clearly do not anticipate the activist intervention.

[17] We also calculated an abnormal short interest ratio by deducting the mean short interest ratio for all firms in the Compustat universe on that day. The pattern is virtually identical to that reported in Panel A, so it is not tabulated.

Figure 4. Short Interest around Activism Campaigns

Panel A: Short Interest for All Campaigns



Panel B: Short Interest for Sale Campaigns

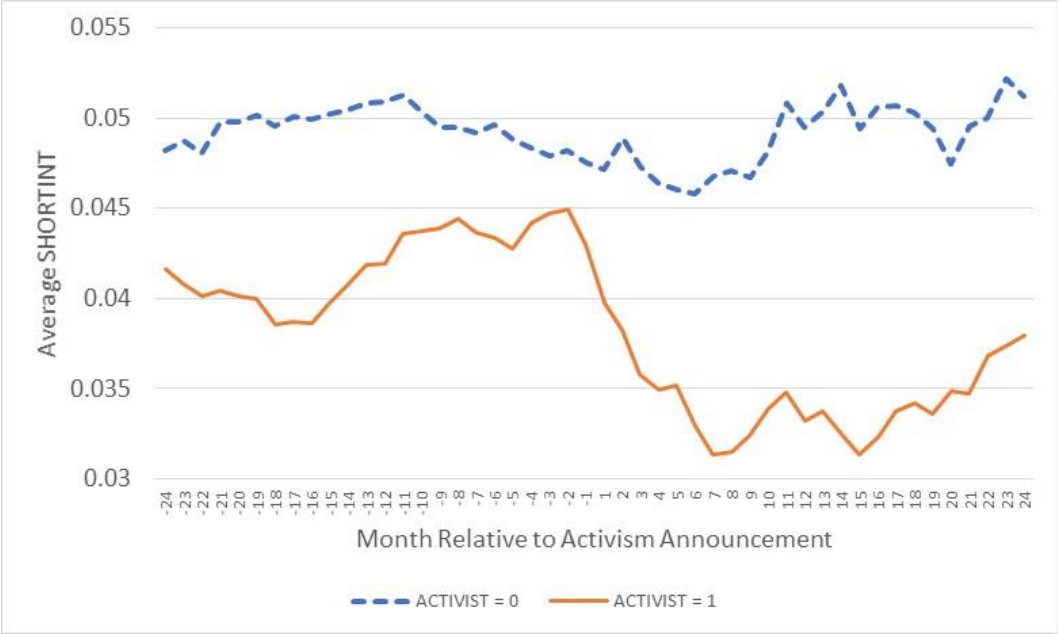
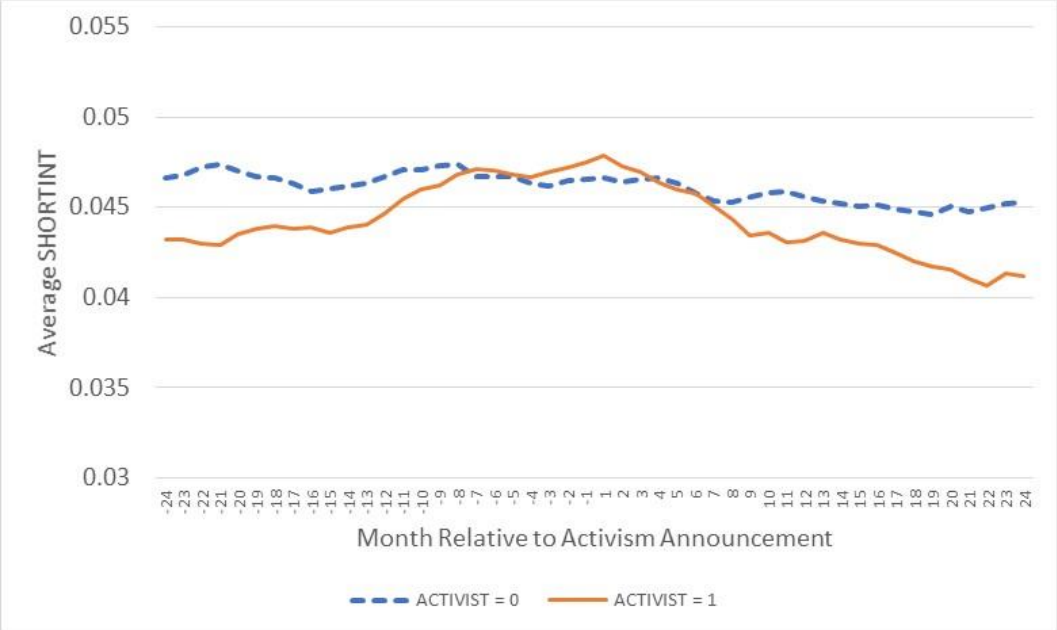


Figure 4 Continued

Panel C: Short Interest for Non-Sale Campaigns



The figures plot the mean short interest ratio, calculated as short interest scaled by shares outstanding (*Shortint*). Panel A reports *Shortint* for the full sample of target and control firms. Panel B reports *Shortint* for activist campaigns that seek a sale of all or a portion of the target company. Panel C presents *Shortint* for all other, non-sale campaigns.

Table 4 reports results for the model used in hypothesis testing. In the pre-intervention period, the coefficient on the interaction term, *Activist*Evttime*, is positive and statistically significant, meaning that target firms experience an increase in short interest relative to control firms. In the post-intervention period, the coefficient on *Activist*Evttime* is negative and statistically significant (see shaded area), so short sellers significantly reduce their positions in the targeted firms. The reduction in short interest occurs even though most targets experience an increase in stock price at the activist announcement. Short sellers therefore trade as if that price increase is long-lasting. Figure 4 also displays the short interest ratio for interventions that seek a sale of all, or part, of the company (Figure 4, Panel B) and those that do not involve a sale (Figure 4, Panel C). The decline is sharp for sale-motivated campaigns, possibly because a price increase averaging 17% forces many short sellers to cover their (losing) position. The decline is modest for the non-sale interventions; however, an increase would be expected if the price increase that most targets experience around the activist announcement results in overvaluation.

Table 4. Pre- and Post-Intervention Changes in Short Interest

Variables	Equation 2a Pre-intervention	Equation 2b Post-intervention
Activist	0.000754	-0.000213
	(0.00198)	(0.00212)
Evttime	3.01e-05	-1.32e-05
	(5.31e-05)	(6.59e-05)
*Activist*Evttime*	0.000249***	-0.000200**
	(8.19e-05)	(9.74e-05)
Constant	0.0153	0.00260
	(0.0115)	(0.00636)
N	166,044	127,594
Adjusted R-squared	0.059	0.074
Year Fixed Effects	YES	YES
Industry Fixed Effects	YES	YES
Cluster by firm	YES	YES
Event Window (Months)	[-24, -1]	[1, 24]

This table presents the results of estimating Equations 2a and b. Equation 2a estimates the change in short interest in the pre-intervention period, whereas Equation 2b estimates the change in the post-intervention period.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

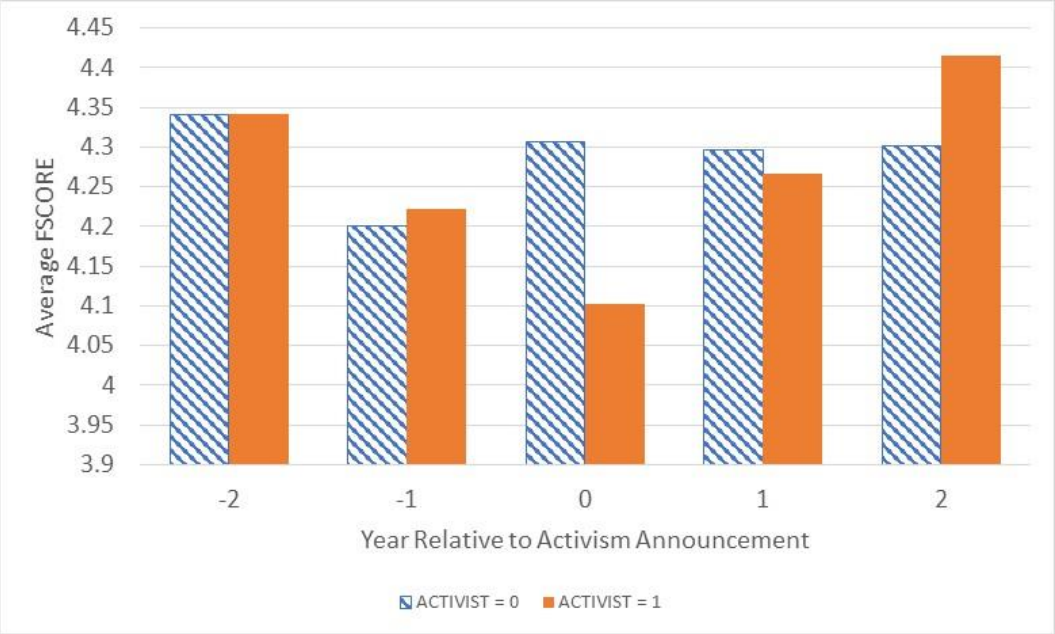
Appendix A provides the variable definitions.

Taken together, the analyses in Figure 4 and Table 4 allow us to reject H2: "Activist interventions are unrelated to future changes in short selling." Instead, short sellers behave as if the equity for target firms is not overvalued, despite a substantial price increase around the activist announcement for most targets.

Investor Activism and Changes in Firm Fundamentals

Figure 5 reports on the operating performance of target and control firms using *FScores* calculated from annual financial statement data. Two years prior to the activism announcement, target firms and their matched control counterparts have almost identical *FScores*. This is not surprising because operating performance is one of the factors used in matching target with control firms. The financial health of target firms then deteriorates in the year of the activism announcement (year 0), so that target firms have lower *FScores* than control firms. Firm performance improves thereafter, and activist targets have somewhat higher *FScores* than control firms in the second year after the intervention.

Figure 5. Changes in Financial Statement Fundamentals Using *FScores*



This figure plots annual *FScores* for target and control firms for the five fiscal years centered on the year of the activism announcement. Calculated annually, *FScores* are constructed as the sum of 9 binary signals related to firm fundamentals. See Appendix B for a detailed description of the nine signals and how they are calculated.

Table 5 reports results for the model used in hypothesis testing. For the pre-intervention period, the holdout year is *t*-2, which is followed by year *t*-1, and then the intervention year *t*. This allows positive coefficients to be interpreted as improved financial performance. The significant negative coefficient on $Year_{t-1}$ indicates that financial statement fundamentals are deteriorating for both target and control firms. During year *t*, the interaction term, $Activist*Year_t$, is significantly negative so the deterioration continues for targets but not for controls. This pattern changes at the activist intervention. In the post-intervention period, the holdout year is *t*, which is followed by year *t*+1, and year *t*+2. The significant positive coefficient on both $Activist*Year_{t+1}$ and $Activist*Year_{t+2}$ (see shaded areas) means that the target firms experience a statistically significant improvement in fundamentals compared to the control firms. The coefficients on $Year_{t+1}$ and $Year_{t+2}$ are insignificant, so the improvement does not occur for control firms.

Table 5. Changes in Firm Fundamentals (*FScores*) for Years around Activism Announcements

Variables	Equation 4a Pre-intervention	Equation 4b Post-intervention
Activist	0.000411	-0.204***
	(0.0405)	(0.0454)
$Year_{t-1}$	-0.119***	
	(0.0366)	
$Activist*Year_{t-1}$	0.0213	
	(0.0528)	
$Year_t$	0.0312	
	(0.0427)	
$Activist*Year_t$	-0.204***	
	(0.0596)	
$Year_{t+1}$		-0.00687
		(0.0465)
$Activist*Year_{t+1}$		0.173***
		(0.0633)
$Year_{t+2}$		-0.0408
		(0.0524)
$Activist*Year_{t+2}$		0.316***
		(0.0720)
Constant	2.302***	3.985***
	(0.420)	(0.729)
N	13,830	9,316
Adjusted R-squared	0.042	0.044
Year Fixed Effects	YES	YES
Industry Fixed Effects	YES	YES
Cluster by firm	YES	YES
Event Window (Years)	[-2, 0]	[0, 2]

This table presents the results of estimating Equations 3a and b. Equation 4a estimates the change in firm fundamentals (*FScore*) in the pre-intervention period, whereas Equation 4b estimates the change in the post-intervention period. The hold-out year in each regression is the first year in each period, year *t*-2 for the pre-intervention period and year *t* for the post-intervention period. Negative (positive) coefficients on the year indicator variables therefore indicate declining (improving) fundamentals in the period tested.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides the variable definition

Taken together, our analysis of *FScore*s allows us to reject H3: "Activist interventions are unrelated to future changes in firm fundamentals." Instead, accounting fundamentals show a significant improvement in the operating performance of target firms after the activist intervention. The improvement in accounting fundamentals in the post-intervention period is consistent with the positive long-window returns, more favorable analyst recommendations, and lower short interest after the intervention.

Ownership by Short- and Long-Horizon Institutional Investors and Activism

Changes in ownership by dedicated (and transient) institutional investors are displayed in Figure 6 with statistical significance tested in Table 6. We are primarily interested in ownership by dedicated institutional investors and whether it differs after the intervention. However, we also report on ownership by transient institutional investors to determine whether any changes we observe for dedicated institutional investors also occur for transient institutional investors. If so, we could not attribute the change in dedicated institutional investors to their longer investment horizon.

Table 6. Pre- and Post-Intervention Ownership by Dedicated and Transient Institutional Investors

Variables	*Own_Ded* Pre-intervention (4a)	*Own_Ded* Post-intervention (4b)	*Own_Tran* Pre-intervention (4c)	*Own_Tran* Post-intervention (4d)
Activist	0.00233	0.00377	0.00340	0.0136***
	(0.00414)	(0.00482)	(0.00380)	(0.00475)
Evttime	0.000318	-0.000999**	0.000133	-0.000162
	(0.000377)	(0.000496)	(0.000323)	(0.000490)
*Activist*Evttime*	0.000132	0.00186***	0.000738	-0.00263***
	(0.000502)	(0.000713)	(0.000492)	(0.000715)
Constant	0.0540	0.0809***	0.139*	0.0836*
	(0.0441)	(0.0298)	(0.0803)	(0.0487)
N	37,798	24,452	52,006	35,204
Adjusted R-squared	0.024	0.010	0.077	0.067
Year Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
Cluster by firm	YES	YES	YES	YES
Event Window (Quarters)	[-7, 0]	[1, 8]	[-7, 0]	[1, 8]

This panel presents the results of estimating Equations 4a through d. Equations 4a and c estimate, respectively, the change in ownership by dedicated and transient institutional investors in the pre-intervention period, whereas Equations 4b and d estimate the change in ownership in the post-intervention period.

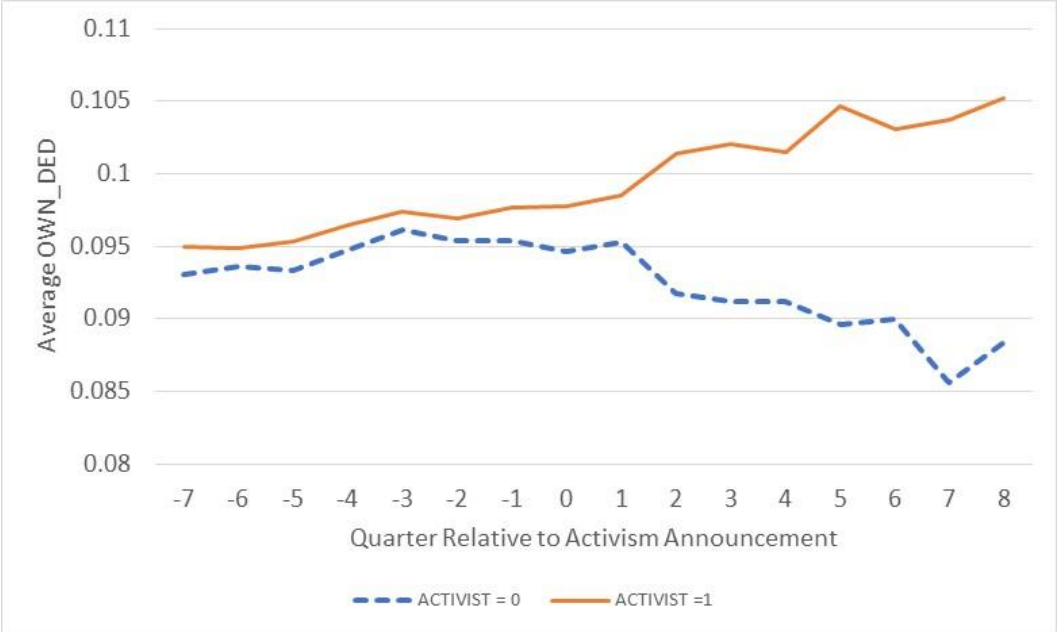
*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides the variable definitions.

Figure 6, Panel A, shows that ownership by long-term dedicated investors, *Own_Ded*, is steady and very similar for target and control firms prior to the activist announcement. This is confirmed by the results for Table 6, Equation 4a, where all coefficients are insignificant. This finding is significant because it is inconsistent with the allegation that the value from activist interventions is "appropriated from fellow stockholders with longer-term investment horizons… (Lipton 2013b)". That is, we find no evidence of a decline in dedicated ownership, which would indicate that activists accumulate their stakes by purchasing shares from long-term investors. Moreover, Figure 6, Panel A, shows that beginning in the intervention quarter, ownership of target and control firms by long-term institutional owners diverges, with increases for target firms and decreases for control firms. Equation 4b on Table 6 shows that the coefficient on *Activist*Evttime* is significantly positive, while *Evttime* (which shows the change for control firms) is significantly negative. The significant increase in ownership by dedicated institutional investors compared to matched control firms is inconsistent with a short-term positive effect from activism.

Figure 6. Institutional Ownership around Activism Campaigns

Panel A: Ownership by Dedicated (Long-term) Institutional Investors for All Campaigns



Panel B: Ownership by Transient (Short-term) Institutional Investors for All Campaigns

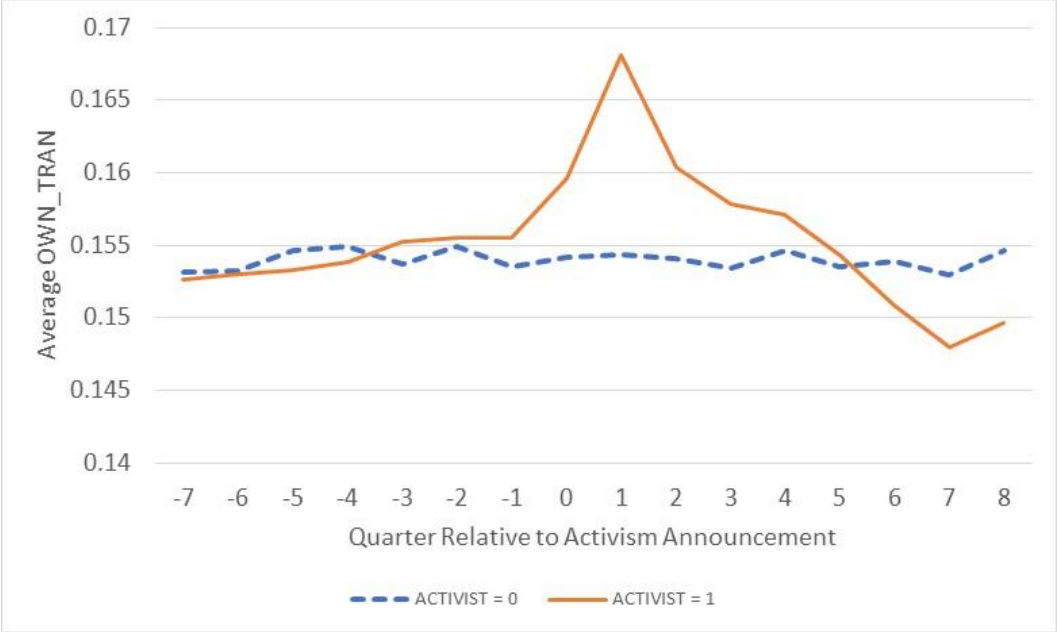


Figure 6 Continued

Panel C: Ownership by Dedicated Institutional Investors for Sale Campaigns

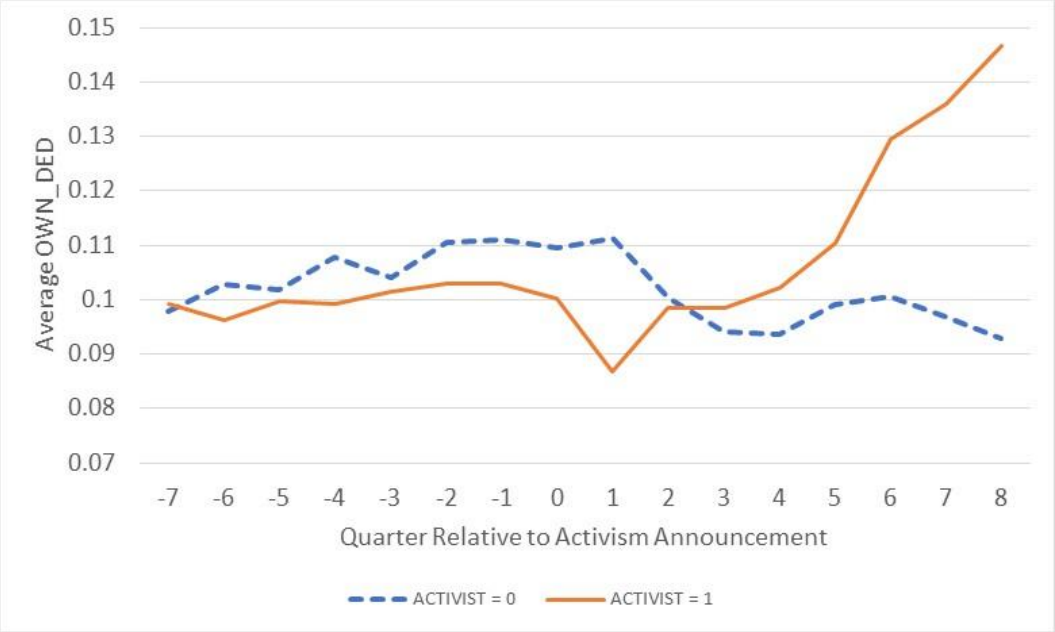
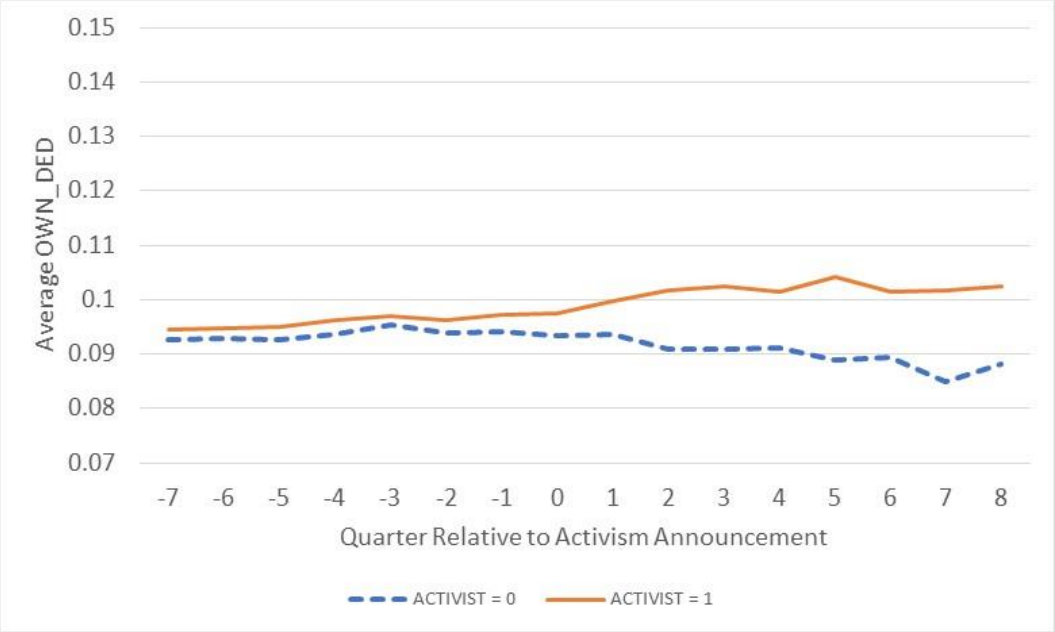


Figure 6 Continued

Panel D: Ownership by Dedicated Institutional Investors for Non-Sale Campaigns



The figures plot quarterly share ownership, scaled by shares outstanding, by institutional investors for target and control firms. Panel A depicts ownership by dedicated institutional investors (*Own_Ded*) for all campaigns. Panel B depicts ownership by transient institutional investors (*Own_Tran*) for all campaigns. Panel C reports *Own_Ded* for campaigns that seek a sale of all or a portion of the target firm. Panel D reports *Own_Ded* for all other non-sale campaigns. Activist ownership is announced in quarter 1. Institutional investor classifications were developed in Bushee (1998) and can be found at Bushee's website: http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html**.**

This increase in ownership by dedicated institutional investors after the intervention is also different from the changes in ownership by transient institutional investors. Figure 6, Panel B, shows that ownership by transient institutional investors, *Own_Tran*, is similar for target and control firms prior to the activist announcement. This is confirmed by insignificant coefficients for Equation 4c on Table 6. Figure 6, Panel B, shows that transient ownership then increases sharply in announcement quarter 0 and this increase continues into quarter 1. (This increase in transient ownership could arise from momentum traders trying to capture the positive returns that occur around activist announcements.) After quarter 1, transient ownership in target firms declines sharply and, after four months, it is similar to control firms. The decline is statistically significant, as indicated by the significant negative coefficient for *Activist*Evttime* in Equation 4d on Table 6. This decline contrasts with the significant increase by dedicated owners (i.e., Equation 4b). In sum, we find that the pattern of changes in dedicated and transitory ownership is quite different after an activist intervention, consistent with their differing preferences for short- and long-term performance.

Panels C and D of Figure 6 plot ownership by dedicated investors for sale and non-sale campaigns respectively. The post-intervention increase in ownership by dedicated investors is largest at firms that are targeted for a sale, for whom *Ded_Own* increases from 8.7% to 14.7% over the two years following the campaign announcement (a marginal increase of 69%). The marginal increase for non-sale campaigns is much smaller (about 5%). Consistent with Greenwood and Schor (2009) and our findings for stock returns, analyst recommendations, and short interest, institutional investors react

strongest to campaigns in which activists demand sale of all or a portion of the target firm.

Taken together, empirical analyses of long-term dedicated investors, *Own_Ded*, allows us to reject H4: "Activist interventions are unrelated to future ownership by dedicated institutional investors." Instead, dedicated institutional investors substantially increase their ownership during the eight quarters after the activist intervention. Dedicated institutional investors therefore trade in a manner that is inconsistent with activism inducing short-termism at target firms.

Additional Discussion of Short- and Long-Horizon Institutional Investors

Finding a significant increase in ownership by dedicated institutional investors should be considered in the context of prior research. Studies prior to Ramalingegowda (2014) find little evidence that dedicated investors anticipate and trade in advance of significant corporate events, such as earnings restatements or a break in a string of consecutive earnings increases (e.g., Hribar, Jenkins, and Wang 2009; Ke and Petroni 2004). Ramalingegowda (2014) finds that long-term investors *do* trade in advance of bankruptcies, and one possible explanation for this finding is that dedicated investors may only trade ahead of events that result in large, *persistent* changes in firm value. If true, then the increase in dedicated ownership that we document is consistent with activism leading to a persistent increase in target firm value. Prior research also provides evidence that ownership by dedicated investors leads to various favorable outcomes. Bushee and Noe (2000) show that dedicated ownership contributes to lower future stock return volatility. In an M&A setting, Chen, Harford, and Li (2007) find that ownership

by long-term investors is positively related to post-merger performance and to the likelihood of withdrawal of a bad bid. Demiralp, D'Mello, Schlingemann, and Subramaniam (2011) show that dedicated ownership is positively associated with returns around the announcement of seasoned equity offerings and that post-issue returns are positively associated with contemporaneous changes in dedicated ownership. These studies suggest that the post-intervention prospects of target firms may improve, at least in part, because dedicated investors monitor and encourage managers to make value-enhancing decisions.

Robustness Checks

We perform several additional tests to investigate the robustness of these findings. In untabulated analyses, we restrict the sample to only those firms that are observed over the entire window used in each test. Although such a restriction may induce survival bias by eliminating certain types of firms from the sample (e.g., firms that merge or are acquired, young firms, firms that are delisted for performance reasons, and firms that are targeted later than 2012 that do not have 2 years of post-intervention data), it is a useful exercise to investigate the extent to which the observed pattern, especially over long windows, is due to changes in sample composition across the event window. Despite a significant decrease in sample size, we find qualitatively similar results.

The results for analyst recommendations, short selling, financial statement fundamentals, and institutional ownership compare observations for target firms to control firms with similar characteristics. The control firms are selected using propensity

score matching. Allison (2005, 1-3) comments that no matter how many variables a model controls for, it may be subject to criticisms of omitted-variable bias or measurement-error bias. Allison argues for using fixed effects models whenever the dependent variable of interest is measured at more than one point in time. Fixed effects models examine within-firm variation, thereby using each target firm as its own control. In addition to controlling for time-invariant factors, a fixed effects model allows us to use all the sample target firms, rather than only those with a suitable control firm.

We run an OLS regression with firm fixed effects for each dependent variable of interest (*Meanrec*, *Shortint*, *FScore*, *Own_Ded*, and *Own_Tran*), where

$$Dep.Var. = \beta_0 + \beta_1 Post + \beta_2 Evttime + \beta_3 Post * Evttime + FirmFE + \varepsilon$$

Post is an indicator variable that equals 1 for observations measured after the intervention announcement. *Evttime* is a monthly or quarterly linear time series variable, depending on the measurement frequency of the outcome variable. The interaction term, *Post*Evttime*, allows the slope (change over time) in the dependent variable to vary between the pre- and post-intervention periods. By including a series of indicator variables in the model, one for each activist target, the regression coefficients are identified using within-firm variation only, effectively allowing each activist target to serve as its own control. We run a fixed effect model for each of the dependent variables listed above and the results are consistent with those reported.

In our last robustness test, we use three alternative classifications of institutions' investment horizon to examine ownership changes over time by short- and long-term institutional investors. In contrast to Bushee's measure, which classifies firms as

transient, dedicated, or quasi-indexers according to (1) their level of portfolio turnover and (2) their level of portfolio diversification, the three alternative investment-horizon measures classify institutional investors as short-term (i.e., transient) and long-term (i.e., dedicated) on the basis of portfolio turnover only.[18] The three measures differ in how quarterly portfolio turnover is constructed, but the steps we use to classify institutions as either short- and long-term are the same for each measure. First, for institution *i* and quarter *t*, we calculate *i*'s portfolio turnover during calendar quarter *t*. Institutions in the top (bottom) turnover tercile of all institutions for quarter *t* are classified as short-term (long-term) for quarter *t*. Because an institution's classification can change from quarter to quarter, we use the institution's mode (i.e., most frequent) classification across all quarters as a permanent, i.e., time-invariant, classification. Use of a time-invariant classification for each turnover measure ensures that any observed firm-level changes in institutional ownership over time are driven by changes in institutions' ownership levels and not by changes in their classifications. Once short- and long-term investors are classified, we aggregate ownership by short- and long-term investors to the firm-quarter level for each turnover measure. Using these three measures, we find results similar to those in Table 6 for both long-term and short-term institutional investors. Ownership by long-term investors at target firms increases significantly relative to control firms in the post-intervention period for two of the three measures. By comparison, ownership by

[18] Details regarding the construction of the three portfolio turnover measures, including SAS code, are available at the WRDS research application, "Institutional Trades, Flows, and Turnover Ratios using Thomson Reuters 13-F Data," https://wrds-web.wharton.upenn.edu/wrds/research/applications/ownership/Institutional%20Trades/.

short-term investors decreases significantly for all three measures. These results increase our confidence in the institutional ownership findings reported.

Conclusion

In this study, we examine several types of evidence to provide insight into the value of shareholder activism for targeted firms. Critics of activists argue that "myopic activists" have a short investment horizon and seek actions that increase short-term stock prices at the expense of long-term shareholder value. Our study adds to a line of academic research that provides evidence on this allegation. We examine five types of evidence: market returns, analyst recommendations, short selling, institutional trading, and accounting results. All five types of evidence indicate that interventions by activist investors increase long-term shareholder value.

We would like to comment on the relation of our study to a recent study by Bebchuk, Brav, and Jiang (2015). Despite substantially different samples, both studies find sizable positive, short-window market returns that increase in subsequent years. Bebchuk, Brav, and Jiang (2015) report on firm performance using Tobin's Q and ROA for five years after the intervention. In several analyses, they find that target-firm, market undervaluation measured with Tobin's Q declines over the subsequent years. They find that ROA generally improves over the five years. While Tobin's Q has considerable acceptance in academe, it is based on stock market valuations, and the critics of activists are reluctant to accept market values as the arbiter of long-term value. Our study complements Bebchuk, Brav, and Jiang (2015) by examining the response of market participants who invest heavily in information. Despite an often substantial stock

price increase around the activist announcement, we find that analyst buy recommendations increase, short interest declines, and ownership by long-term ("dedicated") institutional investors increases. A consensus therefore exists among three types of informed market participants that activism adds to long-term shareholder value.

As the activist landscape continues to evolve, our results should inform regulators who are considering rules that may reduce incentives for activists to intervene at poorly performing companies. Bebchuk, Brav, and Jiang (2015) discuss how concern over shareholder activists is being used to oppose most policy changes that would strengthen shareholder influence. In addition to relevance to ongoing policy debates, our results should also be of interest to boards and managers as they engage with activist shareholders who push for changes.

CHAPTER III

THE ROLE OF THE BUSINESS PRESS IN SHAREHOLDER ACTIVISM CAMPAIGNS

Introduction

This study examines the role of the business press in activists' targeting decisions and the effect of business press coverage on returns to activist campaign announcements. The business press is an important information intermediary that creates and disseminates information to investors, among other stakeholders (Bushee, Core, Guay, and Hamm 2010). Anecdotal evidence suggests that shareholder activists rely on the business press to announce their campaigns and to garner public support for their objective (Joe, Louis, and Robinson 2009). For example, in April 1992, activist Robert Monk took out a full-page ad in the Wall Street Journal that included an image of several silhouettes with the headline "The Directors of Sears, Roebuck and Co: NON-PERFORMING ASSETS." Under the image and title was a lengthy treatise in which Monk criticized the board and outlined his vision for the future of the company. Although Monk was unsuccessful in securing a board seat, in the months following the ad's publication, the board adopted several of his recommendations (Dyck and Zingales 2002).

A growing body of literature has identified primarily two important roles of the media, namely, as creators and disseminators of information and as monitors of the firm. Some of the benefits of media coverage include lower information asymmetry (Bushee,

Core, Guay, and Hamm 2010), greater liquidity (Peress 2014), faster price formation (Twedt 2016; Drake, Thornock, and Twedt 2017), stronger corporate governance (Miller 2006; Dyck, Volchkova, and Zingales 2008; Dai, Parwada, and Zhang 2015), and even better career outcomes (Rees, Sharp, and Twedt 2014). This study bridges both streams of literature, informing the corporate governance role of the media through its effect on attracting other monitoring entities—namely, activist investors. By examining the market response to activist campaign announcements, the study is also linked to prior work that examines the media's role in disseminating information that becomes impounded in stock prices.

As the first study to provide an in-depth examination on the interaction between the business press and shareholder activism, I begin by providing descriptive evidence of media coverage around shareholder activism announcements. Using a database of business press articles from 2000 to 2014, I find that press coverage of firms targeted by activists increases 249% on the day of the activism announcement, relative to coverage one week earlier. I find that both favorable and unfavorable coverage increase on the announcement date, but the increase in favorable coverage is significantly larger (275% vs. 86%). Consistent with a relatively larger increase in the number of positive articles, I find that the average level of sentiment (measured from 0 to 100) increases approximately 8%, from 53.01 the week before the announcement to 57.18 on the announcement date. I also examine long-window changes in media coverage before and after activist interventions. I find that press coverage increases in the months leading up to an activist campaign announcement and is highest in the month of the activist

campaign announcement (51% higher than the same month one year earlier). Coverage begins to decline in the month after the announcement month but remains elevated above pre-intervention levels until approximately 9 months after the announcement. Favorable (unfavorable) news coverage increases 35% (36%) in the month of the announcement relative to the same month one year earlier. These results confirm the newsworthiness of activist campaigns and are consistent with the perception shared by other market participants (e.g., analysts, short sellers, and institutional investors) that activism campaigns are generally beneficial for target firms.

In light of the descriptive evidence that media coverage increases in the months prior to an activist campaign announcement and prior theory on the determinants of shareholder intervention, I next examine in a multivariate setting whether media coverage and various attributes of media coverage influence the likelihood that a firm is targeted by an activist. I find consistent evidence that higher media coverage is positively associated with the likelihood of being targeted by an activist. In addition, using a measure of the favorability of the coverage, I find consistent evidence that the relation is larger for negative media coverage than it is for positive media coverage. I also find that broad dissemination of information has a bigger impact on the likelihood of being targeted than does the quantity of information, consistent with results from Bushee, Core, Guay, and Hamm (2010).

I next examine one possible explanation for the observed relation between media coverage and the likelihood of being targeted by an activist. If media coverage is sticky, activists may target firms with high levels of pre-intervention media coverage to increase

the likelihood that their campaign receives coverage. Hence, in my next analysis, I identify a number of firm characteristics that are associated with the likelihood of an activist campaign announcement receiving media coverage. Among other associations, I find that pre-intervention news coverage is positively associated with the likelihood of a campaign receiving news coverage, and, consistent with the results for activists' targeting decisions, I find that pre-intervention breadth of dissemination is more important than quantity of information. I draw similar inferences when using the number of articles as the dependent variable.

Activists should only seek media coverage of an activist campaign announcement to the extent that such coverage conveys a benefit to the activist. Accordingly, in my final analysis, I examine the potential capital market benefits of a campaign announcement receiving media coverage. Specifically, I use the likelihood model above to generate a propensity-score matched sample of campaign announcements that receive business press coverage and a sample of announcements with similar observable characteristics that do not receive coverage. Holding other factors constant, I find that two-day, cumulative abnormal returns for campaign announcements that receive business press coverage are 1.88% higher than those that do not, which is more than double the average two-day return for firms without coverage (1.34%). Consistent with earlier results, I find strong evidence that breadth of information dissemination also impacts announcement returns: a one-unit increase in the number of sources covering a campaign is associated with a 1.61% higher announcement return.

This study makes several contributions. First, the study is, to my knowledge, the first to empirically investigate how business press coverage changes around shareholder activism campaigns. Although a casual reading of the Wall Street Journal suggests that shareholder activism is a topic of considerable interest to the public, there is little empirical evidence regarding the level of media interest around activist campaign announcements in either the short- or long-term. This study is also the first to provide insight into the factors that influence the likelihood and level of media coverage of an activist campaign. Given the capital market benefits of media coverage that I document, understanding the factors that influence media coverage should be of interest to shareholder activists as they attempt to maximize media exposure to their interventions. Finally, I contribute to prior work that examines how information dissemination by the media impacts capital markets. Consistent with prior work in other settings, I show that breadth of information dissemination around activism campaign announcements is equally if not more important than quantity of information generated by the business press.

Hypothesis Development

The Choice to Intervene

When a firm performs poorly, equity holders face one of two choices: (1) they can intervene to take corrective action or (2) they can liquidate their position—i.e., "vote with their feet" (or threaten to do so). A number of theoretical studies examine the optimal conditions for each of these choices (e.g., Shleifer and Vishny 1986; Maug 1998; Edmans 2009; Edmans and Manso 2011). Theory developed by Kahn and Winton

(1998) makes two predictions that are relevant to the potential effect of media coverage on shareholder activism intervention. First, Kahn and Winton (1998) predict that institutions will only intervene in target firms to improve firm performance if (1) they understand the target's industry and (2) the market understands the target's information environment such that it can quickly ascertain the benefits of the institution's interventions. Thus, they hypothesize, an activist's portfolio will tend to concentrate in those industries and firms that are relatively transparent, as opposed to opaque firms or industries (e.g., high tech) where information is more difficult for both the institution and the market to obtain and in which the effects of an institution's intervention for firm value are difficult for the market to interpret. Given the significant costs incurred during activist campaigns (Gantchev 2013), which are most often recouped entirely through share price appreciation, the resolution of and timely market response to the activist's intervention is of considerable importance (Cheffins and Armour 2011).

The second prediction from Kahn and Winton (1998) is that the likelihood of intervention depends on market expectations prior to the activist's targeting decision. Intervention will be most profitable (and, hence, most likely) at firms that are publicly perceived as poor performers and least profitable at firms that are perceived as good performers. Intervention in the former case revises the market's beliefs, whereas intervention in the latter case only confirms the market's expectations. As I argue in the next section, business press coverage is an important mechanism through which information is disseminated to capital markets, and as such, variation in coverage may

affect the market's understanding of firms' information environments as well as their perceptions of the firms' future prospects.

The Impact of Media Coverage on the Choice to Intervene

A large body of research examines the role of the media in creating and disseminating information to capital market participants. One of the earliest studies to provide evidence of the value of the media for price formation is Davies and Cane (1978). The study examines the market response to secondary dissemination of stock analysts' recommendations following earlier dissemination to the analysts' clients. The authors find that, inconsistent with the strong form of the Efficient Market Hypothesis, prices do not adjust fully to the information in the stock recommendations until published publicly in the Wall Street Journal. Huberman and Regev (2001) study an article published in the 1998 New York Times Sunday edition, which discussed potential cancer-treatment drugs under development by the pharmaceutical company EntreMed. Between Friday close and the Monday morning after the article was published, the price of EntreMed stock rose 700%. The stock reaction occurred despite the fact that all the information in the article had been published five months earlier in the journal *Nature* and other media outlets. These studies indicate that media coverage can reduce market frictions that prevent even public information from being impounded into stock prices immediately. More recent studies have confirmed in a variety of settings that media coverage is associated with faster price formation and reduced information asymmetry around important information events—e.g., earnings announcements (Bushee, Core,

Guay, and Hamm 2010), management's disclosure of earnings guidance (Twedt 2016), and insider trading disclosure (Rogers, Skinner, and Zechman 2016).

Kahn and Winton (1998) predict that intervention will be more likely in industries that are well understood by outsiders and at firms with robust information environments. Given the role of the media as an important information intermediary, I hypothesize that shareholder activists will be attracted to firms with greater levels of business coverage because higher levels of coverage help activists and other outside investors understand the implications of the activism campaign for firm's prospects. This relation is not guaranteed, however. If greater media coverage results in a more robust information environment, the information advantage enjoyed by privately informed traders, including the activist, may be reduced (Diamond and Verrecchia 1991). To the extent that a robust information environment preempts private-information gathering, activists may actually choose to target firms with low levels of media coverage. Given these competing predictions, I state my first hypothesis in the null:

H1: The likelihood of an activist intervention is unrelated to a firm's business press coverage.

One implication from Kahn and Winton's (1998) second prediction is that intervention is most likely for firms that are perceived poorly by the public. For these firms, "intervening pushes the firm's return in the unexpected direction, which tends to increase the institution's trading profits" (p.100). In contrast, intervening at a firm where market expectations are strong only reaffirms investors beliefs and so may not result in significant share price appreciation. Prior research (e.g., Fang and Peress 2009; Tetlock

2011; Lee, Hutton, and Shu 2015; Twedt 2016) indicates that media coverage has a significant impact on market expectations, even controlling for the information conveyed by such coverage. Accordingly, activists may be attracted to firms with negative media coverage if such coverage media coverage dampens market expectations about firms' future prospects. This prediction comprises my second hypothesis, stated in the alternative:

H2: The likelihood of an activist intervention is inversely related to the favorability of recent business press coverage.

To the extent that business press coverage increases the attention that firms receive, high levels of past coverage may be positively associated with current press coverage. In my setting, activists may target firms with high press coverage because press coverage prior to an activist campaign announcement may increase the likelihood that the campaign receives media coverage when it is announced. This prediction forms the basis for my next hypothesis, stated in the alternative:

H3: The likelihood that an activist campaign announcement receives business press coverage is positively related to the firm's prior level of press coverage.

Activists should only target firms with high media coverage if such coverage conveys benefits to the activist. One benefit of press coverage of an activism campaign may be a larger initial market reaction to the campaign announcement. Indeed, Twedt (2016) finds that the initial market reaction to the disclosure of management earnings guidance is stronger for disclosures that are covered in the business press. Drake, Thornock, and Twedt (2017) find similar results when examining the effect of coverage

by professional and semi-professional internet media outlets on the market reaction to earnings news. This leads to my final hypothesis, stated in the alternative form:

H4: The initial market reaction to an activism campaign announcement is larger for campaigns that receive business press coverage.

Sources of Data

Activist Data

I gather information related to activist campaigns from Thomson One and SharkRepellant. Published by FactSet, SharkRepellant offers data on activist campaigns from the 1980s to the present. I obtained a one-time download, which includes data for campaigns through early 2013. For Thomson One, published by Thomson Reuters, coverage begin in 2000 and continues to the present. From these two datasets, I obtain the date of the activism announcement, the activist's status as prominent or not, and the activist's campaign objective. I eliminate duplicate observations resulting from overlap between the two datasets, which results in a final dataset of 4871 activist campaigns covering 2652 unique firms. Table 1 summarizes the sample selection process.

I group campaigns into six non-mutually exclusive categories according to the activist's initial demand(s) as classified by Thomson One and SharkRepellant. The six categories include events related to corporate governance, strategy, engaging management, board composition, pushing for a sale, and other miscellaneous campaigns. Descriptions of the types of events classified in each group are presented in Appendix B.

Business Press Data

Partnering with Dow Jones, RavenPack provides real-time textual analysis of the Dow Jones news archive beginning in 2000, including coverage of articles published by the Wall Street Journal, Barron's, MarketWatch, and Dow Jones Newswires. Examples of available data items include the category of event covered in the article, the companies discussed in the article and their relevance to the article, and the novelty of the story. A number of recent studies have used the RavenPack database to investigate a wide variety of research topics, including how auditors respond to business press coverage (Penn 2012), how news dissemination in the business press is biased toward bad news (Green, Hand, and Penn 2012), and how variation in news dissemination differentially influences the market's response to management earnings guidance (Twedt 2016).

Other Data

I obtain data related to firm fundamentals and other firm characteristics from Compustat. Stock market data is provided by CRSP. Institutional ownership is reported quarterly and obtained from Thomson Reuters, and analyst coverage is calculated using I/B/E/S. See Appendix A for a detailed description of each variable used in the analyses.

Research Design and Variable Measurement

Factors Influencing the Likelihood of an Activist Intervention

To examine whether press coverage influences the likelihood of an activist intervention (H1 and H2), I use logistic regression to estimate the following model to predict shareholder activism in year *t* (firm subscripts omitted for clarity). The regression

uses all firms with available data and uses information in fiscal year *t*-1 to predict activism events in fiscal year *t*:

$$\begin{aligned} Activist = \quad & \beta_0 + \beta_1[Press]_{t-1} + \beta_2 LSize_{t-1} + \beta_3 BHAR_{t-1} + \beta_4 Lev_{t-1} \\ & + \beta_5 Div\_Yield_{t-1} + \beta_6 ROA_{t-1} + \beta_7 Growth_{t-1} + \beta_8 Analyst_{t-1} \\ & + \beta_9 Inst_{t-1} + \beta_{10} Liquidity_{t-1} + YearFE + IndFE \end{aligned} \quad (5)$$

Press refers to various permutations of the following press-related variables, which I posit may influence the likelihood of an activist intervention: the total number of articles published in year *t*-1 (*N_Articles*), the total number of articles with non-neutral sentiment (*N_Articles_No50*), the number of positive articles (*N_Pos*), the number of negative articles (*N_Neg*), the number of very positive articles (*N_VeryPos*), and the number of very negative articles (*N_VeryNeg*).[19] As an alternative to using counts of positive and negative articles to examine the differential effects of positive and negative press coverage, I also use the average sentiment level of all articles (*Av_ESS*) and the average sentiment level of all non-neutral articles (*Av_ESS_No50*). Event Sentiment Score (ESS) is a proprietary measure of sentiment ranging in values of 0 to 100, with higher numbers reflecting more favorable sentiment based on the economic implications of the event being discussed in the article. Articles with an ESS score of 50 are considered neutral in sentiment. My final press-related variable used to predict activism is the number of unique news sources providing press coverage (*N_Sources*). At the

[19] As recommended by RavenPack, all the news-related variables I construct only include articles with relevance (measured from 0 to 100) greater than 75 in order to ensure that the articles are significantly relevant to the firm.

construct level, article-based variables capture the *amount* of positive, negative, and total press coverage, whereas *N_Sources* captures the *breadth* of dissemination of press coverage (similar to Bushee, Core, Guay, and Hamm 2010).

All the other independent variables have been shown in prior literature to be associated with the likelihood of an activist intervention. *LSize* is the natural logarithm of the firm's market capitalization at the end of year *t*-1. *BHAR* represents the buy-and-hold abnormal return for firm *i*, measured as the buy-and-hold raw return less the buy-and-hold, value-weighted market return over year *t*-1. *Leverage* is firm *i*'s debt at the end of year *t*-1, scaled by end-of-year assets. *Div_Yield* is firm *i*'s dividend yield in year *t*-1, calculated as follows: (preferred dividends + common dividends)/(market value of common stock + book value of preferred stock). *ROA* is earnings before interest, taxes, depreciation, and amortization, scaled by beginning-of-year assets (i.e., assets at the end of year *t*-2). *Growth* is firm *i*'s sales growth from year *t*-2 to year *t*-1. *Analyst* represents analyst following and is defined as the number of analysts who make either a quarterly or annual earnings forecast during fiscal year *t*-1. *Inst* denotes average institutional ownership across the four quarters during the fiscal year *t*-1. *Liquidity* is a measure of trading liquidity derived from Amihud (2002). I also include year and industry fixed effects to control for industry- and time-differences in the likelihood of being targeted by an activist.

If press coverage increases the likelihood of being targeted by an activist, I expect the coefficient on *N_Articles* and *N_Articles_No50* to be positive. If activists are particularly attracted to firms with negative media coverage, I expect (1) the coefficient

on *N_Neg* and *N_VeryNeg* to be positive and significantly different from the coefficients on *N_Pos* and *N_VeryPos* and (2) the coefficient on *Av_ESS* and *Av_ESS_No50* to be negative. If breadth of press coverage influences activists' targeting decisions, I expect the coefficient on *N_Sources* to be positive.

Factors Influencing the Likelihood of an Announcement Receiving Press Coverage

I use logistic regression to estimate the following model to identify factors that are associated with the likelihood of an activism campaign announcement receiving press coverage:

$$\begin{aligned} News\_Cover = \quad & \beta_0 + \beta_1 N\_Articles\_PMonth + \beta_2 N\_Sources\_PMonth \\ & + \beta_3 Prominent + \beta_4 SP1500 + \beta_5 Inst + \beta_6 LSize \\ & + \beta_7 Analyst + \beta_8 CAR\_Pre30 + \beta_{9-14}[Act\_Categories] \\ & + YearFE + IndFE + WeekdayFE + \varepsilon \end{aligned} \tag{6}$$

The dependent variable, *News_Cover*, is equal to one for interventions that receive press coverage on the campaign announcement date. Unlike other events such as earnings announcements or management guidance announcements, RavenPack does not have a category that identifies coverage related to activism campaign announcements. Consequently, to identify activism campaigns that receive press coverage, I classify an activism campaign as receiving coverage (*News_Cover*) if the total number of news articles on the date of the activism announcement is greater than the daily average number of articles from days [-30, -1] relative to the announcement date. To the extent that my measure misclassifies firms, I should not find significant results. I also estimate Equation 6 with a negative binomial regression using the number of articles published on

the announcement date (*N_Articles_Annc*) as an alternative dependent variable. The independent variables of interest that I use to predict press coverage of activist events include the number of articles published in the 30 days leading up to the campaign announcement (*N_Articles_PMonth*) and the number of unique sources of coverage over the same time period (*N_Sources_PMonth*). If prior levels or breadth of press coverage is positively associated with coverage of an activist campaign announcement, I expect the coefficients on *N_Articles_PMonth* and *N_Sources_PMonth* to be positive.

I include several other measures that may reasonably be associated with the likelihood that a campaign receives press coverage. Prominent is an indicator variable that equals 1 for campaigns launched by a prominent activist as classified by Thomson One and SharkRepellant. SP1500 is an indicator equal to 1 if the target firm's stock is part of the S&P Composite 1500 because these firms are of primary interest to the business press (Li, Ramesh, and Shen 2011). I include institutional ownership (*Inst*), firm size (*LSize*), and analyst following to proxy for the market demand for firm information (Bushee, Core, Guay, and Hamm 2010; Twedt 2016). I also include the cumulative abnormal return over the trading-day period [-31, -2] relative to the activism announcement (CAR_Pre30) to capture prior performance and to proxy for the perceived impact or "newsworthiness" of the activist intervening at the firm (Kahn and Winton 1998). I include indicator variables for the various categories of activism to control for the possibility that certain types of activism are of greater interest to the press than others. Finally, because press coverage varies across industry and time (see Figures 7 and 8), I also include year, industry, and weekday fixed effects.

The Effect of Business Press Coverage on the Market Response to Activism Announcements

In my final analysis, I estimate the following model to investigate how the initial market reaction to activism announcements differs for campaigns that receive press coverage compared to those that do not:

$$\begin{aligned} CAR\_Evt2 = \quad & \beta_0 + \beta_1[Press] + \beta_2 Prominent + \beta_3 Inst + \beta_4 LSize \\ & + \beta_5 Analyst + \beta_6 CAR\_Pre30 + \beta_{7-12}[Act\_Categories] \\ & + YearFE + IndFE + WeekdayFE + \varepsilon \end{aligned} \tag{7}$$

The dependent variable in the model, *CAR_Evt2*, is the cumulative abnormal return over the two-day period beginning on the day of the announcement. The abnormal return for firm *i* on day *t* is calculated as the firm's raw return on day *t* less the value-weighted market return on day *t*. *Press* refers to three variables that capture the effect of press coverage of the campaign announcement on announcement returns: *News_Cover*, *N_Articles_Annc*, and *N_Sources_Annc* (the number of unique sources providing coverage on the announcement day). If investors give greater attention to activist campaign announcements that receive press coverage, I expect to find significantly positive coefficients on the three press-related variables above. To reduce concerns about possible reverse causality—i.e., the newsworthiness of higher returns leading to higher same-day news coverage—I exclude any article that is categorized as relating to a rise or decline in share price in calculating the independent variables of interest.[20]

[20] The specific category names in RavenPack are "stock-gain" and "stock-loss".

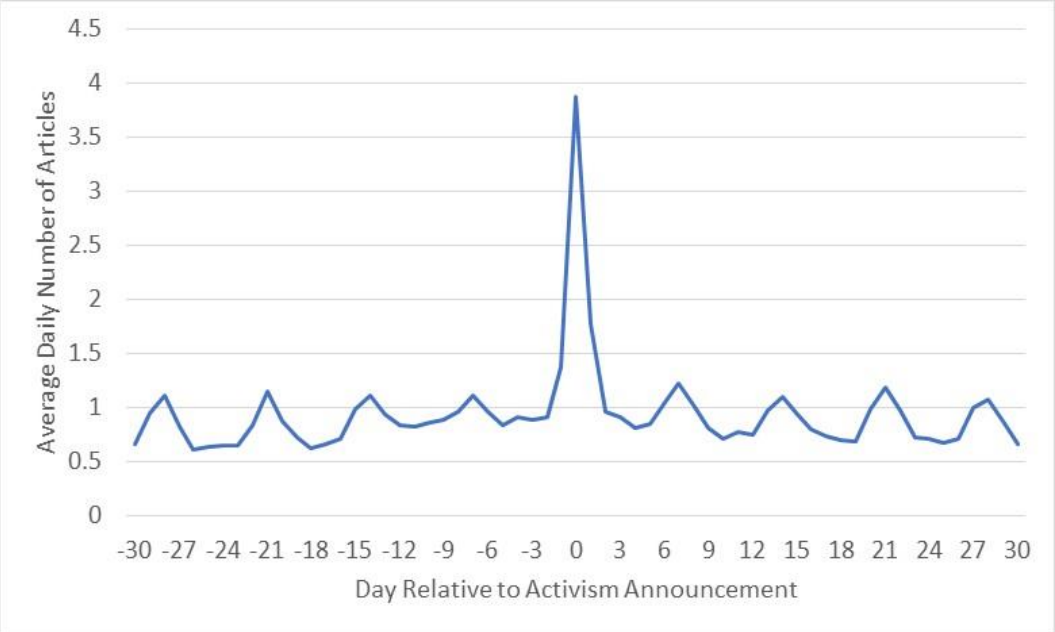
Results

Descriptive Evidence on Differences between Target and Non-Target Firms

As the first study to examine press coverage around activism campaigns, I begin by graphing short-window business press coverage (Figure 7) and long-window business press coverage around activism announcements. Panel A of Figure 7 depicts the average daily number of articles published in the month before and after the activist's campaign announcement. Two aspects of Panel A deserve mention: First, there is a noticeable weekly time trend in press coverage, underscoring the importance of using weekday fixed effects to control for day-of-the-week variation in press coverage. Second, and more importantly, there is a large spike in the number of articles on the date of the activism announcement representing an increase of 249%, relative to the same day a week earlier. Panel B shows that this spike is concentrated in favorable news coverage: the number of articles exhibiting positive sentiment increases 275%, whereas the number of articles with negative sentiment increases 82%. This result is confirmed in Panel C, which graphs the average sentiment level of all articles. It increases from 53.01 on the same day one week earlier to 57.18 on the announcement date, an increase of approximately 8%. These results confirm the newsworthiness of activist campaigns and are consistent with the perception shared by other market participants (e.g., analysts, short sellers, and institutional investors) that the business press generally views activism campaigns as beneficial for target firms.

Figure 7. Short-Window Business Press Coverage around Activism Announcements

Panel A: Average Daily Number of Articles



Panel B: Average Daily Number of Positive and Negative Articles

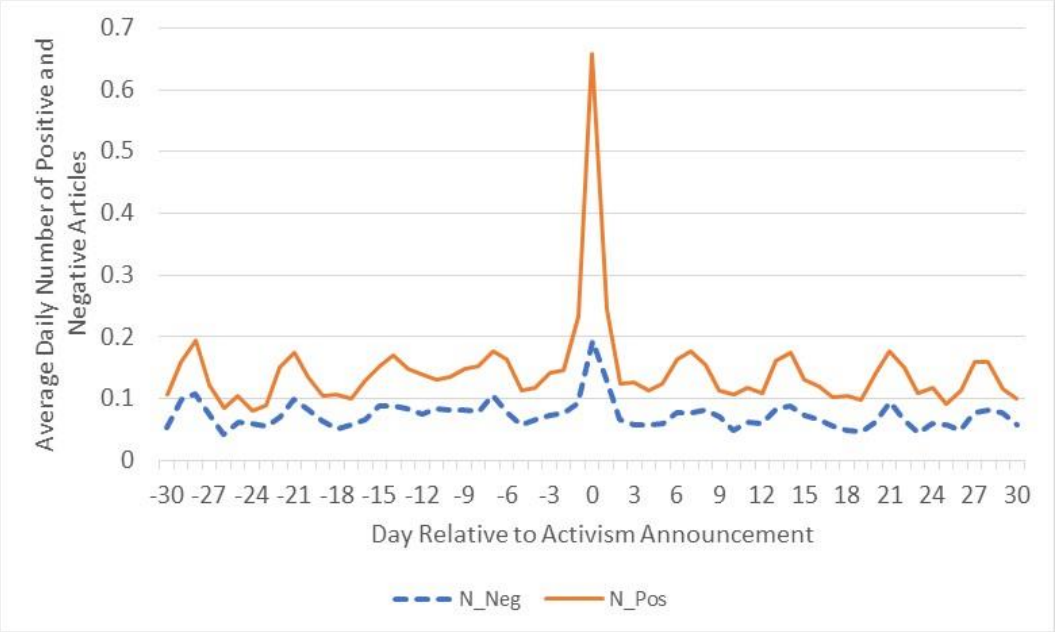
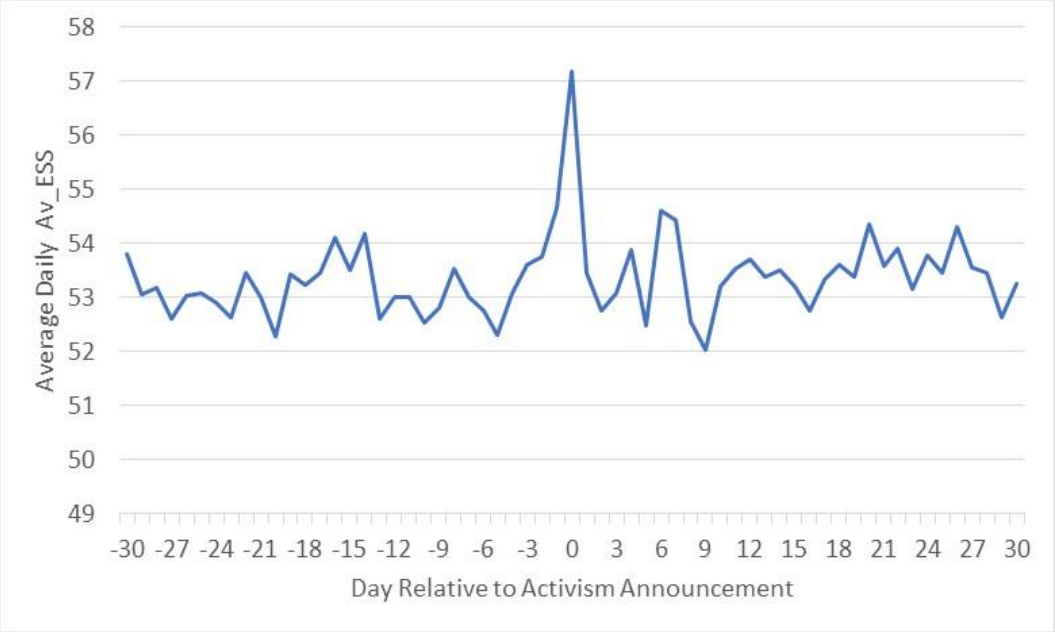


Figure 7 Continued

Panel C: Average Daily Sentiment Score (ESS) for All Articles

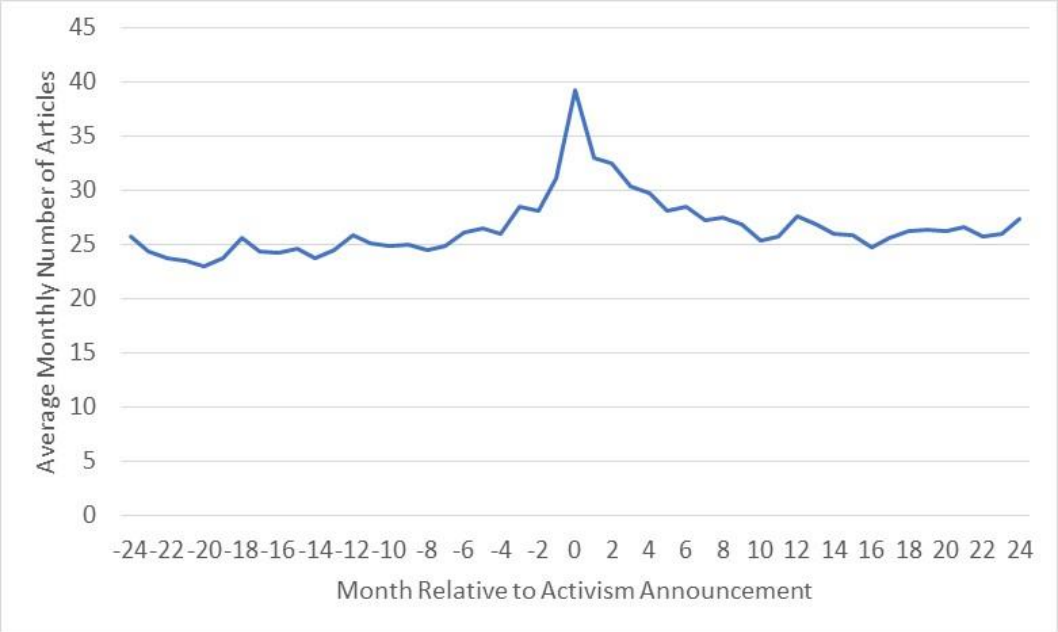


This figure plots variation in media coverage in the [-30, 30] day window surrounding an activist campaign announcement. Panel A plots the average daily number of articles across all news sources in the RavenPack database. Panel B plots the average daily number of favorable and unfavorable press articles, where favorable (unfavorable) articles are those with an ESS score greater than (less than) 50. Panel C plots the average daily ESS score of all articles for the target firms.

Figure 8 depicts business press coverage in the two years before and after an activism campaign announcement. Panel A shows significant variation in press coverage in the year before and after an activist campaign announcement. Press coverage increases in the months leading up to an activist campaign announcement and is highest in the month of the activist campaign announcement (51% higher than the same month one year earlier). Coverage begins to decline in the month after the announcement month but remains elevated above pre-intervention levels until approximately 9 months after the announcement. Panel B shows that favorable (unfavorable) news coverage increases 35% (36%) in the month of the announcement relative to the same month one year earlier. Thus, although positive press coverage is higher in the day of the activism announcement (Figure 7, Panel B), the difference is attenuated when aggregating at larger time intervals. Despite the relative increase in the number of positive and negative articles being almost identical, there is still a noticeable spike in sentiment when averaged across all articles (Panel C). This suggests that, while the number of positive and negative articles may increase at the same rate, the tone in articles becomes more positive (or less negative) in the month of an activist campaign announcement and the two months after. These results suggest that activism campaigns have effects on media coverage that persist for several weeks beyond the initial campaign announcement.

Figure 8. Long-Window Business Press Coverage around Activism Announcements

Panel A: Average Monthly Number of Articles



Panel B: Average Monthly Number of Positive and Negative Articles

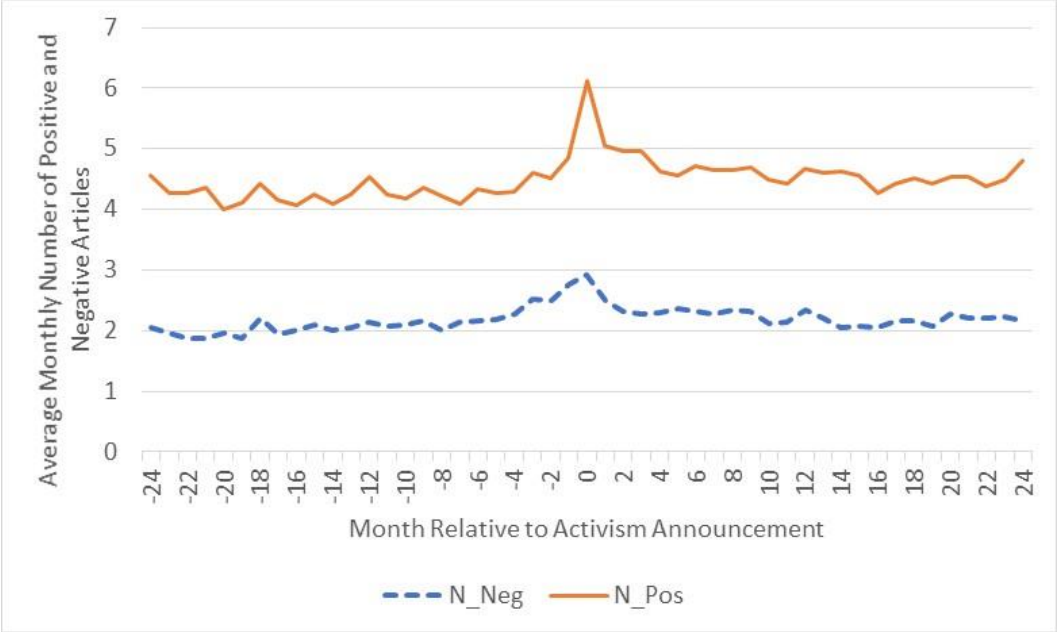


Figure 8 Continued

Panel C: Average Monthly Sentiment Score (ESS) for All Articles

This figure plots variation in media coverage in the two years before and after an activist campaign announcement. Panel A plots the average monthly number of articles across all news sources in the RavenPack database. Panel B plots the average monthly number of favorable and unfavorable press articles, where favorable (unfavorable) articles are those with an ESS score greater than (less than) 50. Panel C plots the average monthly ESS score of all articles for the target firms.

Table 7 displays descriptive statistics for variables used to predict activist interventions (Equation 5). Panel A shows results for the pooled sample of all firms with available data. Activism campaigns are relatively rare, with roughly 4% of firm-years are subject to an activist intervention. The large difference in means for *N_Articles* and *N_Articles_No50* indicates that the large majority of business press articles neutral in sentiment. Indeed, variation in sentiment (*Av_ESS*) appears to be modest with only about a 12-point difference in between the 10^{th} percentile of sentiment and the 90^{th} (48.7 versus 60.9). Predictably, there is more variation when excluding articles with neutral sentiment. Furthermore, positive press coverage is about twice as common as negative coverage, and this is true for very positive and negative coverage as well. Panel B displays differences for activist-target and non-target firm-years. Activist targets are significantly different from the universe of all firms along almost all dimensions, underscoring the importance of controlling for differences when comparing target and non-target firms. Univariate tests of differences in press coverage suggest that activist targets receive much more press coverage than non-target firms, and this is true for both positive and negative press coverage. Sentiment of press coverage is lower for activist targets compared to control firms, which supports the possibility that activists deliberately target firms with negative press coverage.

Table 7. Descriptive Statistics for Variables Used to Predict Activist Interventions

Panel A: Pooled Sample Statistics

Variables	Mean	Std. Dev.	10th	25th	Median	75th	90th
Activist	0.041	0.199	0.000	0.000	0.000	0.000	0.000
N_Articles	127.048	467.239	0.000	13.000	68.000	133.000	232.000
N_Articles_No50	35.567	60.360	0.000	4.000	21.000	45.000	79.000
N_Sources	1.240	1.039	0.000	1.000	1.000	2.000	3.000
N_Pos	24.323	42.774	0.000	2.000	14.000	30.000	54.000
N_Neg	11.244	20.417	0.000	0.000	6.000	15.000	27.000
N_VeryPos	3.453	6.083	0.000	0.000	1.000	5.000	9.000
N_VeryNeg	1.683	5.608	0.000	0.000	0.000	2.000	5.000
Av_ESS	54.757	5.125	48.679	51.731	54.680	57.796	60.873
Av_ESS_No50	57.088	7.445	47.926	52.754	57.240	61.890	66.217
LSize	5.955	2.192	3.131	4.351	5.908	7.451	8.937
BHAR	0.064	0.573	-0.516	-0.271	-0.023	0.259	0.665
Lev	0.558	0.359	0.176	0.323	0.538	0.766	0.914
Div_Yield	0.015	0.029	0.000	0.000	0.000	0.020	0.042
ROA	0.049	0.339	-0.132	0.018	0.087	0.162	0.251
Growth	0.193	0.757	-0.188	-0.039	0.073	0.220	0.499
Analyst	7.543	8.748	0.000	1.000	5.000	11.000	20.000
Inst	0.402	0.333	0.000	0.059	0.366	0.711	0.873
Liquidity	-0.495	0.926	-1.389	-0.492	-0.126	-0.040	-0.017

Table 7 Continued

Panel B: Subsample Comparison for Activist Targets and Non-Targets

	Non-Targets		Targets		
Variables	**N**	**Mean**	**N**	**Mean**	**MeanDiff**
N_Articles	72,987	122.302	3129	237.749	-115.447***
N_Articles_No50	72,987	34.439	3129	61.883	-27.444***
N_Sources	72,987	1.228	3129	1.513	-0.285***
N_Pos	72,987	23.579	3129	41.674	-18.095***
N_Neg	72,987	10.86	3129	20.208	-9.349***
N_VeryPos	72,987	3.374	3129	5.283	-1.909***
N_VeryNeg	72,987	1.572	3129	4.27	-2.698***
Av_ESS	55,689	54.802	2712	53.836	0.966***
Av_ESS_No50	55,422	57.15	2702	55.817	1.333***
LSize	72,987	5.957	3129	5.908	0.050
BHAR	72,987	0.068	3129	-0.035	0.103***
Lev	72,987	0.558	3129	0.554	0.004
Div_Yield	72,987	0.015	3129	0.012	0.003***
ROA	72,987	0.048	3129	0.072	-0.024***
Growth	72,987	0.197	3129	0.114	0.082***
Analyst	72,987	7.502	3129	8.494	-0.992***
Inst	72,987	0.396	3129	0.536	-0.140***
Liquidity	72,987	-0.499	3129	-0.392	-0.107***

This sample is composed of the universe of firms with available annual data and is used to estimate Equation 5. Panel A presents descriptive statistics for the pooled sample of targeted and non-targeted firms. Panel B presents a comparison in descriptive statistics for subsamples of targeted and non-targeted firms.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values.

See Appendix A for variable definitions.

Descriptive Evidence on Differences between Covered and Non-Covered Campaigns

Table 8, Panel A displays descriptive campaign-related statistics for the full sample of activist campaigns, and Panel B displays statistics separately for activist campaign announcements that receive press coverage and those that do not. Approximately half of campaigns receive press coverage on the announcement date, and Panel B shows that firms receiving coverage are different from those that do not in many ways. Covered firms have more press coverage both before and on the day of the activism announcement.[21] Pre-announcement breadth of press coverage is also larger for targets with covered campaign announcements. There are also significant differences in the types of campaigns that receive coverage. Campaigns related to corporate strategy and campaigns seeking a sale of the company are most likely to be covered by the press. Consistent with my hypothesis, the univariate difference in the market reaction to covered and non-covered campaign announcements is significant—3.7% for covered announcements and 1.5% for non-covered announcements.

[21] Recall that *News_Cover* is equal to 0 if the number of articles on the announcement date is less than the daily average number over the prior 30 days. A firm can have non-zero press coverage and still be classified as not receiving coverage, which explains why the mean *N_Articles_Annc* is not zero for non-covered firms.

Table 8. Descriptive Statistics for Activist Campaigns

Panel A: Statistics for the Pooled Sample of Activism Campaigns

Variables	Mean	Std. Dev.	10th	25th	Median	75th	90th
News_Cover	0.511	0.500	0.000	0.000	1.000	1.000	1.000
N_Articles_Annc	3.645	9.086	0.000	0.000	1.000	4.000	9.000
N_Articles_PMonth	15.178	19.873	0.000	1.000	8.000	20.000	43.000
N_Sources_Annc	0.654	0.733	0.000	0.000	1.000	1.000	1.000
N_Sources_PMonth	1.077	0.917	0.000	1.000	1.000	1.000	3.000
CAR_Evt2	0.026	0.087	-0.033	-0.009	0.010	0.040	0.100
Prominent	0.426	0.494	0.000	0.000	0.000	1.000	1.000
SP1500	0.150	0.357	0.000	0.000	0.000	0.000	1.000
Inst	0.483	0.332	0.000	0.165	0.515	0.778	0.914
LSize	5.763	1.987	3.379	4.250	5.516	7.100	8.752
Analyst	7.377	9.652	0.000	0.000	4.000	10.000	21.000
CAR_Pre30	0.013	0.176	-0.181	-0.071	0.009	0.104	0.246
Engage	0.415	0.493	0.000	0.000	0.000	1.000	1.000
Board	0.390	0.488	0.000	0.000	0.000	1.000	1.000
Corp_Gov	0.150	0.358	0.000	0.000	0.000	0.000	1.000
Strategy	0.092	0.289	0.000	0.000	0.000	0.000	0.000
Sale	0.085	0.279	0.000	0.000	0.000	0.000	0.000
Other	0.116	0.320	0.000	0.000	0.000	0.000	1.000

Table 8 Continued

Panel B: Subsample Comparison for Campaigns with and without Press Coverage

	No Coverage		Coverage		
Variables	**N**	**Mean**	**N**	**Mean**	**MeanDiff**
N_Articles_Annc	2094	0.204	2187	6.94	-6.736***
N_Articles_PMonth	2094	11.298	2187	18.894	-7.596***
N_Sources_Annc	2094	0.085	2187	1.199	-1.114***
N_Sources_PMonth	2094	0.832	2187	1.311	-0.479***
CAR_Evt2	2045	0.015	2167	0.037	-0.021***
Prominent	2094	0.443	2187	0.409	0.033**
SP1500	2094	0.101	2187	0.197	-0.096***
Inst	2094	0.374	2187	0.587	-0.213***
LSize	1928	5.402	2133	6.089	-0.687***
Analyst	2094	5.853	2187	8.837	-2.984***
CAR_Pre30	2048	0.020	2168	0.006	0.014***
Engage	2094	0.400	2187	0.43	-0.030**
Board	2094	0.396	2187	0.383	0.0130
Corp_Gov	2094	0.162	2187	0.139	0.022**
Strategy	2094	0.075	2187	0.109	-0.034***
Sale	2094	0.065	2187	0.104	-0.039***
Other	2094	0.141	2187	0.091	0.049***

This sample is comprised of all activist campaigns with available data and is used to estimate Equations 6 and 7. Panel A presents descriptive statistics for all activist campaign announcements. Panel B presents a comparison between covered and non-covered campaign announcements.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values.

See Appendix A for variable definitions.

Given the significant differences between campaigns that receive coverage and those that do not, I use propensity-score matching (PSM) to identify subsamples of covered campaigns and campaigns that do not receive press coverage but which are similar to covered firms in other observable respects. I use this PSM sample in subsequent multivariate analyses to compare the effect of differences in press coverage on the market reaction to activist campaign announcements. For each hypothesis, I now discuss results from multivariate analyses.

Press Coverage and the Likelihood of Intervention (H1)

Results from estimating the relation between press coverage and the likelihood of being targeted by an activist investor are displayed in Table 9. In Panel A, I use press coverage variables that includes both neutral and non-neutral articles. In Panel B, I report estimates for the same models using press coverage variables that exclude neutral articles.

Table 9. Press Coverage and the Likelihood of Being Targeted by an Activist

Panel A: Coverage Variables Including Neutral Articles

	(1)	(2)	(3)	(4)
Dep. Var = *Activist*	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Odds Ratio
$N\_Articles_{t-1}$	0.000192**		0.000173**	1.000**
	(7.83e-05)		(7.27e-05)	(7.27e-05)
$N\_Sources_{t-1}$		0.156***	0.136***	1.146***
		(0.0244)	(0.0251)	(0.0288)
$LSize_{t-1}$	-0.218***	-0.219***	-0.230***	0.795***
	(0.0222)	(0.0222)	(0.0223)	(0.0177)
$BHAR_{t-1}$	-0.178***	-0.180***	-0.175***	0.839***
	(0.0426)	(0.0424)	(0.0423)	(0.0355)
Lev_{t-1}	0.109**	0.0895*	0.0886*	1.093*
	(0.0482)	(0.0501)	(0.0501)	(0.0548)
Div_Yield_{t-1}	-0.879	-0.986	-1.031	0.357
	(0.829)	(0.824)	(0.830)	(0.296)
ROA_{t-1}	0.289***	0.314***	0.322***	1.380***
	(0.106)	(0.108)	(0.108)	(0.149)
$Growth_{t-1}$	-0.159***	-0.159***	-0.156***	0.855***
	(0.0485)	(0.0480)	(0.0477)	(0.0408)
$Analyst_{t-1}$	0.0138***	0.0108**	0.00962**	1.010**
	(0.00431)	(0.00446)	(0.00442)	(0.00447)
$Inst_{t-1}$	1.135***	0.998***	1.022***	2.778***
	(0.0875)	(0.0930)	(0.0922)	(0.256)
$Liquidity_{t-1}$	0.136***	0.136***	0.146***	1.157***
	(0.0375)	(0.0372)	(0.0375)	(0.0434)
Year Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
N	76,116	76,116	76,116	76,116
Pseudo R-squared	0.08	0.08	0.08	0.08
Area under the ROC Curve	0.73	0.73	0.74	0.74

Table 9 Continued

Panel B: Coverage Variables Excluding Neutral Articles

	(1)	(2)	(3)	(4)
Dep. Var = *Activist*	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Odds Ratio
$N\_Articles\_No50_{t-1}$	0.00417***		0.00399***	1.004***
	(0.000422)		(0.000426)	(0.000428)
$N\_Sources_{t-1}$		0.156***	0.0667**	1.069**
		(0.0244)	(0.0272)	(0.0291)
$LSize_{t-1}$	-0.263***	-0.219***	-0.268***	0.765***
	(0.0225)	(0.0222)	(0.0225)	(0.0172)
$BHAR_{t-1}$	-0.152***	-0.180***	-0.151***	0.860***
	(0.0415)	(0.0424)	(0.0414)	(0.0356)
Lev_{t-1}	0.0585	0.0895*	0.0487	1.050
	(0.0541)	(0.0501)	(0.0550)	(0.0578)
Div_Yield_{t-1}	-1.369	-0.986	-1.419*	0.242*
	(0.853)	(0.824)	(0.852)	(0.206)
ROA_{t-1}	0.356***	0.314***	0.370***	1.447***
	(0.111)	(0.108)	(0.112)	(0.162)
$Growth_{t-1}$	-0.144***	-0.159***	-0.144***	0.866***
	(0.0464)	(0.0480)	(0.0461)	(0.0399)
$Analyst_{t-1}$	0.00199	0.0108**	0.000408	1.000
	(0.00441)	(0.00446)	(0.00445)	(0.00445)
$Inst_{t-1}$	1.154***	0.998***	1.102***	3.010***
	(0.0894)	(0.0930)	(0.0918)	(0.276)
$Liquidity_{t-1}$	0.180***	0.136***	0.183***	1.201***
	(0.0388)	(0.0372)	(0.0387)	(0.0465)
Year Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
N	76,116	76,116	76,116	76,116
Pseudo R-squared	0.09	0.08	0.08	0.08
Area under the ROC Curve	0.74	0.73	0.74	0.74

This table presents the results of estimating Equation 5 with various proxies for the amount of news coverage as the primary independent variables of interest. Panel A (B) estimates the relation between press coverage and the likelihood of intervention using all available (non-neutral) articles.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides variable definitions.

The independent variable of interest in Columns 1 and 2 of Panel A are, *N_Articles* and *N_Sources*, respectively. The significantly positive coefficient on *N_Articles* suggests that activists target firms with higher press coverage. The significantly positive coefficient on *N_Sources* indicates that activists target firms with greater breadth of coverage as well. Column 3 includes both variables in the model, and the odds ratio for the Column 3 model are displayed in Column 4. Although both variables remain significant, the odds ratio for *N_Articles* is not economically meaningful. In contrast, the odds ratio for *N_Sources* indicates that a one-unit increase in the number of sources providing coverage for the firm increase the odds of being targeted by an activist almost 15%. I find consistent results when limiting the sample of articles to those with non-neutral sentiment (Panel B). These results indicate that press coverage influences activists targeting decisions, and *breadth* of press coverage is more important for their decision than the *amount* of press coverage.

Favorability of Press Coverage and the Likelihood of Intervention (H2)

Results from estimating the relation between the favorability of press coverage and the likelihood of being targeted by an activist investor are displayed in Table 10. In Panel A, I use counts of positive and negative articles as my primary independent variables, and I use sentiment scores in Panel B. Column 1 uses counts of all positive and negative variables to predict the likelihood of an intervention. The coefficients on both *N_Pos* and *N_Neg* are positive and statistically significant. However, a chi-squared test of equality of the coefficients fails to reject the null that the coefficients are equal. In terms of economic magnitude, a one-unit increase in the number of positive (negative)

articles is associated with a 0.3% (0.5%) increase in the odds of being targeted by an activist. Column 3 shows that this difference between positive and negative coverage is more pronounced when limiting articles to those that are very positive (ESS > 75) and very negative (ESS < 75), and a chi-squared test rejects the null that the coefficients on *N_VeryPos* and *N_VeryNeg* are equal (p-value = 0.037). Odds ratios in Column 4 indicates that a one-unit increase in the number of very positive (negative) business press articles is associated with a 1.4% (2.8%) increase in the odds of being targeted by an activist. I reach similar inferences when using article sentiment instead of article counts in Panel B: the odds ratio for *Av_ESS* (*Av_ESS_No50*) in Column 2 (4) indicates that a one-unit decrease in sentiment is associated with a 2.1% (1.5%) increase in the odds of being targeted by an activist. Taken together, the results in Tables 3 and 4 provide strong evidence that activists are most likely to intervene at firms that have received high levels of press coverage, especially negative coverage.

Table 10. Favorability of Press Coverage and the Likelihood of Being Targeted by an Activist

Panel A: Using Counts of Positive and Negative Articles

	(1)	(2)	(3)	(4)
Dep. Var = *Activist*	Coefficient (Std. Err.)	Odds Ratio	Coefficient (Std. Err.)	Odds Ratio
N_Pos_{t-1}	0.00336***	1.003***		
	(0.000699)	(0.000701)		
N_Neg_{t-1}	0.00544***	1.005***		
	(0.00187)	(0.00188)		
$N\_VeryPos_{t-1}$			0.0141***	1.014***
			(0.00425)	(0.00432)
$N\_VeryNeg_{t-1}$			0.0273***	1.028***
			(0.00411)	(0.00422)
$N\_Sources_{t-1}$	0.0642**	1.066**	0.0874***	1.091***
	(0.0279)	(0.0297)	(0.0266)	(0.0290)
$LSize_{t-1}$	-0.265***	0.767***	-0.246***	0.782***
	(0.0226)	(0.0173)	(0.0217)	(0.0170)
$BHAR_{t-1}$	-0.147***	0.863***	-0.153***	0.858***
	(0.0413)	(0.0357)	(0.0415)	(0.0356)
Lev_{t-1}	0.0464	1.048	0.0624	1.064
	(0.0554)	(0.0581)	(0.0535)	(0.0569)
Div_Yield_{t-1}	-1.462*	0.232*	-1.425*	0.240*
	(0.855)	(0.198)	(0.853)	(0.205)
ROA_{t-1}	0.376***	1.456***	0.358***	1.431***
	(0.113)	(0.164)	(0.111)	(0.159)
$Growth_{t-1}$	-0.142***	0.867***	-0.146***	0.864***
	(0.0459)	(0.0398)	(0.0463)	(0.0400)
$Analyst_{t-1}$	0.000306	1.000	0.00178	1.002
	(0.00449)	(0.00449)	(0.00460)	(0.00461)
$Inst_{t-1}$	1.097***	2.995***	1.068***	2.910***
	(0.0912)	(0.273)	(0.0923)	(0.269)
$Liquidity_{t-1}$	0.180***	1.198***	0.166***	1.181***
	(0.0387)	(0.0463)	(0.0380)	(0.0449)
Year Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
N	76,116	76,116	76,116	76,116
Pseudo R-squared	0.09	0.09	0.09	0.09
Area under the ROC Curve	0.74	0.74	0.74	0.74

Table 10 Continued

Panel B: Using Sentiment Scores

	(1)	(2)	(3)	(4)
Dep. Var = *Activist*	Coefficient (Std. Err.)	Odds Ratio	Coefficient (Std. Err.)	Odds Ratio
Av_ESS_{t-1}	-0.0213***	0.979***		
	(0.00484)	(0.00474)		
$Av\_ESS\_No50_{t-1}$			-0.0149***	0.985***
			(0.00320)	(0.00315)
$N\_Sources_{t-1}$	0.196***	1.217***	0.191***	1.210***
	(0.0272)	(0.0331)	(0.0272)	(0.0330)
$LSize_{t-1}$	-0.167***	0.846***	-0.170***	0.844***
	(0.0267)	(0.0226)	(0.0267)	(0.0225)
$BHAR_{t-1}$	-0.156***	0.856***	-0.151***	0.860***
	(0.0479)	(0.0410)	(0.0479)	(0.0412)
Lev_{t-1}	0.0490	1.050	0.0483	1.049
	(0.0644)	(0.0676)	(0.0644)	(0.0676)
Div_Yield_{t-1}	-1.263	0.283	-1.210	0.298
	(0.948)	(0.268)	(0.948)	(0.283)
ROA_{t-1}	0.325**	1.385**	0.349***	1.418***
	(0.129)	(0.178)	(0.132)	(0.187)
$Growth_{t-1}$	-0.127**	0.881**	-0.126**	0.882**
	(0.0517)	(0.0456)	(0.0518)	(0.0457)
$Analyst_{t-1}$	0.00537	1.005	0.00535	1.005
	(0.00493)	(0.00495)	(0.00492)	(0.00495)
$Inst_{t-1}$	0.829***	2.291***	0.828***	2.290***
	(0.116)	(0.266)	(0.116)	(0.266)

Table 10, Panel B Continued

	(1)	(2)	(3)	(4)
Dep. Var = Activist	Coefficient (Std. Err.)	Odds Ratio	Coefficient (Std. Err.)	Odds Ratio
Liquidity$_{t-1}$	0.0956**	1.100**	0.102**	1.107**
	(0.0417)	(0.0459)	(0.0425)	(0.0471)
Year Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
N	58,401	58,401	58,124	58,124
Pseudo R-squared	0.08	0.08	0.08	0.08
Area under the ROC Curve	0.72	0.72	0.72	0.72

This table presents the results of estimating Equation 5 with various proxies for the favorability of news coverage as the primary independent variables of interest. Panel A (B) estimates the relation between press coverage and the likelihood of intervention using counts of positive and negative articles (sentiment scores).

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides variable definitions.

Prior Press Coverage and the Likelihood of Announcement Press Coverage (H3)

Results from estimating the relation between pre-announcement press coverage and campaign announcement press coverage are displayed in Table 11, Panel A. To investigate the channels through which prior press coverage may influence announcement campaign coverage, I model coverage as a function of the amount of prior coverage—i.e., the number of articles in the month prior to the campaign announcement (Column 1)—and as a function of the breadth of coverage—i.e., the number of unique sources that covered the target firm in the month prior to the intervention (Column 2). I find that both measures are positively associated with the likelihood of a campaign receiving coverage. However, when estimated together, the sign on *N_Articles_PMonth* is negative, and the odds ratio suggests the relation is very small. In contrast, the relation between breadth of coverage and announcement press coverage is large and highly significant: a one-unit increase in the number of sources providing pre-intervention coverage is associated with an 89% increase in the odds of a campaign receiving press coverage. Inferences are consistent when I use negative binomial regression to estimate the number of articles on the announcement date as a function of prior-month coverage variables (Column 5): a one-unit increase in the number of pre-intervention articles (sources) covering a target firm is associated with a 0.004 (0.484) increase in the number of announcement day articles for the firm. Overall, these results indicate that pre-intervention business press coverage is positively associated with campaign announcement coverage, but the effect is driven primarily through the breadth, not the amount, of pre-intervention coverage.

Table 11. Prior Press Coverage and the Likelihood of an Activist Campaign Receiving Press Coverage

Panel A: Logistic and Negative Binomial Models Predicting Press Coverage of Campaign Announcements

	(1)	(2)	(3)	(4)	(5)
	DV = *News_Cover*	DV = *News_Cover*	DV = *News_Cover*	DV = *News_Cover*	DV = *N_Articles_Annc*
	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Odds Ratio	Coefficient (Std. Err.)
N_Articles_PMonth	0.0138***		-0.00739**	0.993**	0.00432*
	(0.00250)		(0.00335)	(0.00332)	(0.00240)
N_Sources_PMonth		0.531***	0.636***	1.890***	0.484***
		(0.0577)	(0.0780)	(0.147)	(0.0536)
Prominent	-0.158**	-0.156**	-0.162**	0.851**	-0.127**
	(0.0773)	(0.0774)	(0.0774)	(0.0658)	(0.0589)
SP1500	0.0413	0.0476	0.0487	1.050	0.0373
	(0.111)	(0.112)	(0.112)	(0.118)	(0.0703)
Inst	1.794***	1.660***	1.655***	5.235***	0.880***
	(0.151)	(0.151)	(0.151)	(0.789)	(0.134)
LSize	-0.0126	-0.0203	-0.0110	0.989	0.0885***
	(0.0316)	(0.0315)	(0.0317)	(0.0314)	(0.0279)
Analyst	-0.00597	-0.0104*	-0.00776	0.992	0.0111**
	(0.00617)	(0.00634)	(0.00646)	(0.00641)	(0.00474)
CAR_Pre30	-0.453**	-0.552***	-0.549***	0.577***	-0.386***
	(0.207)	(0.210)	(0.210)	(0.121)	(0.149)
Engage	0.187*	0.196*	0.193*	1.213*	-0.137*
	(0.102)	(0.103)	(0.103)	(0.125)	(0.0777)
Board	0.233**	0.250***	0.245**	1.277**	0.126*
	(0.0954)	(0.0965)	(0.0968)	(0.124)	(0.0666)

Table 11, Panel A Continued

	(1)	(2)	(3)	(4)	(5)
	DV = *News_Cover*	DV = *News_Cover*	DV = *News_Cover*	DV = *News_Cover*	DV = *N_Articles_Annc*
	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Odds Ratio	Coefficient (Std. Err.)
Corp_Gov	-0.110	-0.118	-0.114	0.892	0.0339
	(0.101)	(0.102)	(0.102)	(0.0911)	(0.0959)
Strategy	0.400***	0.395***	0.394***	1.483***	0.313***
	(0.134)	(0.135)	(0.135)	(0.200)	(0.0980)
Sale	0.664***	0.683***	0.680***	1.974***	0.925***
	(0.135)	(0.135)	(0.135)	(0.266)	(0.0873)
Other	-0.462***	-0.492***	-0.481***	0.618***	-0.368***
	(0.149)	(0.153)	(0.152)	(0.0939)	(0.111)
Year Fixed Effects	YES	YES	YES	YES	
Day-of-week Fixed Effects	YES	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES	
N	4,026	4,026	4,026	4,026	4,026
Pseudo R-squared	0.12	0.13	0.13	0.13	
Area under the ROC Curve	0.73	0.74	0.74	0.74	

Table 11 Continued

Panel B: Covariate Balance between Matched Pairs

	Subsample Means		
Variable	Coverage	No Coverage	diff. p > |t|
N_Articles_PMonth	15.626	15.899	0.726
N_Sources_PMonth	1.135	1.117	0.596
Prominent	0.411	0.414	0.871
SP1500	0.150	0.145	0.736
Inst	0.498	0.514	0.209
LSize	5.648	5.656	0.918
Analyst	7.442	7.456	0.970
CAR_Pre30	0.017	0.010	0.269
Engage	0.416	0.433	0.397
Board	0.377	0.374	0.869
Corp_Gov	0.147	0.147	0.955
Strategy	0.092	0.088	0.780
Sale	0.088	0.075	0.216
Other	0.112	0.116	0.754
Number of Matched Pairs	1256		

This table presents the results of estimating Equation 6. Panel A estimates the likelihood of a campaign receiving press coverage (columns 1 through 4) and the number of articles on the announcement date (column 5). Panel B presents univariate differences between campaigns that receive coverage and a propensity-score matched sample of campaigns that do not receive press coverage.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides variable definitions.

Business Press Coverage and the Market Response to Campaign Announcements (H4)

Given the significant differences between campaigns that receive business press coverage and those that do not (Table 8, Panel B), any difference in the market response to campaign announcements could be due to differences that are unrelated to media coverage. To mitigate this concern, I use propensity score matching to create a sample of covered announcements and non-covered announcements that are similar along observable dimensions. Using the predicted values (i.e., propensity scores) from estimating Equation 6, I match (without replacement) each covered campaign to the non-covered campaign that has the closest propensity score (i.e., the "nearest neighbor"). I require that the difference in propensities between a target firm and its match be no larger than 1%. Covariate balance for the 1256 pairs of covered and non-covered campaigns are displayed in Table 11, Panel B. Differences between covered and non-covered firms are statistically insignificant, suggesting that the covered and non-covered firms are similar along observable dimensions. The area under the ROC curve is 0.7401, and a goodness-of-fit test fails to reject the null, suggesting that the model fits the data reasonably well

Using both the full sample of activist campaign announcements (Table 12, Panel A) and the PSM sample of announcements (Table 12, Panel B), I estimate the effect of business press coverage on the initial market response to campaign announcements. In Columns 1 through 3, my primary variables of interest are, respectively, an indicator for whether the campaign announcement received coverage, a count of the number of articles on the announcement date, and a count of the number of unique sources

reporting on the firm. When considered individually, I find a positive and economically significant relation between each of the press coverage measures and announcement returns. For example, using results for the PSM sample, receiving campaign coverage is associated with a 1.88% higher announcement return (Column 1), and a one-unit increase in the sources covering the firm is associated with a 1.61% higher announcement return (Column 3). When included in the same model (Column 4), however, only *News_Cover* and *N_Articles_Annc* remain statistically significant, and only the former is economically meaningful, with returns for covered announcements being almost 1% higher than that of non-covered announcements. This result confirms that business press coverage of activism campaign announcements indirectly benefits activists through its effect on the market response to the announcement, although it is unclear whether the effect is driven by the amount or breadth of coverage.

Table 12. The Effect of Business Press Coverage on the Initial Market Response to Activism Campaign Announcements

Panel A: Full Sample of Activism Campaign Announcements

	(1)	(2)	(3)	(4)
Dep. Var. = *CAR_Evt2*	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)
News_Cover	0.0166***			0.00726*
	(0.00266)			(0.00413)
N_Articles_Annc		0.000913***		0.000550**
		(0.000272)		(0.000270)
N_Sources_Annc			0.0136***	0.00567
			(0.00236)	(0.00355)
Prominent	-0.00469*	-0.00540**	-0.00491**	-0.00493**
	(0.00249)	(0.00251)	(0.00250)	(0.00251)
Inst	0.0113**	0.0168***	0.0135***	0.0123**
	(0.00488)	(0.00478)	(0.00473)	(0.00498)
LSize	-0.00180*	-0.00237**	-0.00226**	-0.00237**
	(0.00108)	(0.00108)	(0.00109)	(0.00109)
Analyst	-2.11e-05	-0.000190	-0.000282	-0.000239
	(0.000193)	(0.000197)	(0.000200)	(0.000203)
CAR_Pre30	-0.0396***	-0.0397***	-0.0406***	-0.0394***
	(0.00995)	(0.00999)	(0.00991)	(0.00997)
Engage	-0.00972**	-0.00841*	-0.00947**	-0.00910**
	(0.00446)	(0.00443)	(0.00443)	(0.00443)
Board	-0.00783*	-0.00708*	-0.00758*	-0.00760*
	(0.00411)	(0.00408)	(0.00408)	(0.00407)
Corp_Gov	-0.00890**	-0.00964**	-0.00967**	-0.00949**
	(0.00401)	(0.00402)	(0.00402)	(0.00401)
Strategy	-0.00366	-0.00339	-0.00517	-0.00477
	(0.00445)	(0.00443)	(0.00446)	(0.00444)
Sale	0.108***	0.106***	0.106***	0.105***
	(0.00897)	(0.00894)	(0.00888)	(0.00887)

Table 12, Panel A Continued

	(1)	(2)	(3)	(4)
Dep. Var. = *CAR_Evt2*	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)
Other	-0.0206***	-0.0205***	-0.0210***	-0.0200***
	(0.00464)	(0.00465)	(0.00463)	(0.00464)
Year Fixed Effects	YES	YES	YES	YES
Day-of-week Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
N	4,031	4,031	4,031	4,031
R-squared	0.172	0.172	0.174	0.177

Table 12 Continued

Panel B: PSM Sample of Activism Campaign Announcements

	(1)	(2)	(3)	(4)
Dep. Var. = *CAR_Evt2*	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)
News_Cover	0.0188***			0.00912**
	(0.00307)			(0.00449)
N_Articles_Annc		0.00112***		0.000713*
		(0.000377)		(0.000378)
N_Sources_Annc			0.0161***	0.00549
			(0.00278)	(0.00467)
Prominent	-0.00587**	-0.00612**	-0.00603**	-0.00609**
	(0.00291)	(0.00291)	(0.00291)	(0.00290)
Inst	0.00759	0.00747	0.0102*	0.00903
	(0.00581)	(0.00583)	(0.00591)	(0.00594)
LSize	-0.000777	-0.00152	-0.00136	-0.00149
	(0.00140)	(0.00140)	(0.00140)	(0.00140)
Analyst	-7.98e-05	-0.000249	-0.000419*	-0.000310
	(0.000240)	(0.000242)	(0.000250)	(0.000257)
CAR_Pre30	-0.0322***	-0.0297**	-0.0332***	-0.0315**
	(0.0123)	(0.0124)	(0.0122)	(0.0123)
Engage	-0.0131**	-0.0131**	-0.0130**	-0.0129**
	(0.00588)	(0.00587)	(0.00585)	(0.00583)
Board	-0.00943*	-0.00943*	-0.00874*	-0.00910*
	(0.00508)	(0.00505)	(0.00505)	(0.00503)
Corp_Gov	-0.0111**	-0.0119**	-0.0122**	-0.0119**
	(0.00499)	(0.00498)	(0.00497)	(0.00493)
Strategy	-0.00740	-0.00769	-0.00827	-0.00784
	(0.00637)	(0.00630)	(0.00634)	(0.00628)
Sale	0.106***	0.103***	0.105***	0.104***
	(0.0122)	(0.0121)	(0.0121)	(0.0120)

Table 12, Panel B Continued

	(1)	(2)	(3)	(4)
Dep. Var. = *CAR_Evt2*	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)	Coefficient (Std. Err.)
Other	-0.0229***	-0.0220***	-0.0231***	-0.0221***
	(0.00590)	(0.00599)	(0.00589)	(0.00593)
Year Fixed Effects	YES	YES	YES	YES
Day-of-week Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
N	2,512	2,512	2,512	2,512
R-squared	0.174	0.174	0.177	0.181

This table presents the results of estimating Equation 7. Panel A presents results for all covered and non-covered campaigns. Panel B presents results for only propensity-score matched covered and non-covered campaigns.

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides variable definitions.

Robustness Tests

As a robustness test, I create the same press variables using an alternative measure of sentiment supplied by RavenPack, Composite Sentiment Score (CSS). CSS combines textual characteristics of news articles with 5 other signals to create a composite measure of sentiment. I find that CSS exhibits less variation than ESS, and consequently, although the sign and significance of my tests are comparable across both measures, economic magnitudes are slightly smaller when using CSS.

In addition to reducing concerns over reverse causality by excluding articles that are categorized as covering changes in stock price, I take other steps to mitigate endogeneity concerns. One possible alternative explanation for results for my returns test is that the relation between business press coverage and returns is driven by the economic implications of the campaign. That is, the economic news of the campaign causes both the increase in business press coverage and the stock market reaction. Unlike other information events (e.g., earnings announcements or management forecasts), there is no readily observable proxy the economic value embedded in an activist announcement. My analysis attempt to control for the economics of the intervention by controlling for the campaign objective and the prominence of the activists. In untabulated tests though, I also include either the one- or two-year buy-and-hold abnormal return (starting on the announcement date) as a proxy for the economic value of the campaign, and I find consistent results.

Finally, I investigate the possibility that the increased attention from business press coverage causes investors to initially overreact to an activist campaign

announcement. I substitute 6- and 11-day cumulative abnormal returns for the 2-day returns and find a consistently positive and significant effect of media coverage up two weeks after the intervention. Longer return periods cause the media coverage (and other) variables to lose significance but not to flip sign. This suggests that markets do not correct to a potential overreaction to covered campaign announcements.

Conclusion

In this study, I examine the role of the business press in activists' targeting decisions and in its effect on the market reaction to activist campaign announcements. I find that activists are most likely to target firms with high levels of total media coverage, consistent with Kahn and Winton's (1998) theory, which predicts that activists will target highly visible, well understood firms. In addition, I find that the favorableness of business press coverage is inversely related to the likelihood of being targeted by an activist, consistent with Kahan and Winton's (1998) prediction that intervention will be most likely for firms that are publicly perceived as poor performers. Given the anecdotal evidence suggesting that activists use the media to spread their message and garner support for their campaigns, I posit that activists may target firms with high level of coverage to increase the likelihood that their campaign receives coverage. I find consistent evidence that pre-intervention press coverage is positively related to the likelihood and the level of press coverage of an activist campaign announcement. Finally, I find evidence of one benefit that higher media coverage conveys to activists who are successful in gaining coverage of their campaign announcements, namely, higher announcement returns that do not subsequently reverse.

Future research can examine the longer-term implications of media coverage for activist campaigns. For example, do campaigns that gain greater media exposure enjoy higher returns or greater likelihood of success? What is the relation between media coverage and management disclosure? Are they complements or substitutes? How does management disclosure behavior change in the face of negative media coverage? What sort of consequences do executives face for negative media coverage? As discussed in Miller and Skinner (2016), while some research on the media has occurred, the area is still relatively undeveloped and ripe for future exploration.

CHAPTER IV

CONCLUSION

These two essays examine important antecedents and outcomes of shareholder activism campaigns. The first essay examines how investors and other informed capital market participants respond to shareholder activism campaigns. Consistent with prior literature, we document positive and significant short-window abnormal returns to activist interventions, and we find no evidence that the returns reverse over the long-term. Using a broad measure of fundamentals, we show that target firms experience operational improvements in the years following an activist intervention. The essay's primary contribution, however, is to show how informed market participants respond to activism campaigns. We find that analyst recommendations improve, short selling declines, and long-term institutional ownership increases after an activist intervention. These bullish responses provide strong and consistent evidence that activist campaigns improve the prospects of target firms, especially because they occur after—and despite—a significant and persistent increase in target-firm stock prices around the activism campaign announcement.

In the second essay, I examine the role of the business press in activist interventions. I document four important results: First, consistent with theory that predicts greater likelihood of intervention at firms that are well-understood and highly visible to investors (Kahn and Winton 1998), I find that both the level of business press coverage and the breadth of coverage increase the likelihood of being targeted by an

activist investor. Second, consistent with prior theory that predicts a greater likelihood of intervention at firms that are poorly perceived by the public (Kahn and Winton 1998), I find that the relation between press coverage and the likelihood of intervention is strongest for negative media coverage. Third, I find a positive relation between the level of pre-intervention press coverage at a targeted firm and the likelihood that an activist campaign receives press coverage on the campaign announcement day. This result is consistent with activists' well known desire to use the media to publicize and garner public support for their campaign objectives. Finally, I document an economic benefit that activists receive when their campaign announcements receive press coverage, namely, larger initial announcement returns. Taken together, the findings in these essays inform the debate on the value of shareholder activism and the role that the business press plays in influencing the likelihood of and market reaction to an activist intervention.

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APPENDIX A

VARIABLE DEFINITIONS

Panel A. Dependent Variables

Activist	An indicator equal to 1 for observations representing firms targeted by an activist investor and equal to 0 for control firms
CAR_Evt2	The cumulative abnormal return over the campaign announcement date, $t = 0$, and day $t+1$. Abnormal returns for each day are calculated as the firm's raw return less the value-weighted market return
FScore	See Appendix B
Meanrec	Average monthly recommendation level ranging from 1 to 5, where 1 = strong sell, 2 = sell, 3 = hold, 4 = buy, and 5 = strong buy
News_Cover	An indicator equal to 1 for activist campaigns that receive press coverage on the day of the campaign announcement. Campaigns are designated as receiving coverage if the count of articles on the day of the announcement is greater than the average daily count for days [-30, -1] relative to the announcement date
N_Articles_Annc	The number of articles on the activist campaign announcement date
Own_Ded	The number of shares owned by dedicated institutional investors at calendar quarter-end, scaled by shares outstanding
Own_Tran	The number of shares owned by transient institutional investors at calendar quarter-end, scaled by shares outstanding
Shortint	Monthly short interest from Compustat, computed as the number of shares sold short as of the settlement date, scaled by shares outstanding

Panel B. Independent Variables

Activism Demand Categories	See Appendix B
Activist	An indicator equal to 1 for observations representing firms targeted by an activist investor and equal to 0 for control firms
Analyst	A count of the number of analysts who made either an annual or a quarterly forecast for the firm during the fiscal year

Av_ESS	The average level of ESS for all articles over the fiscal year.
Av_ESS_No50	The average level of ESS for all articles, excluding non-neutral (i.e., ESS = 50) over the fiscal year
BHAR	12-month buy-and-hold abnormal return in excess of the value-weighted market return, measured over the fiscal year
Buypct	Monthly number of buy recommendations, divided by total recommendations and multiplied by 100
Div_Yield	The sum of common and preferred dividends, divided by the sum of the market value of common stock plus the book value of preferred stock
Evttime	A discrete variable ranging from -24 to 24, denoting the month of observation relative to the activism announcement
Growth	Current year sales divided by lagged sales, less one
Holdpct	Monthly number of hold recommendations, divided by total recommendations and multiplied by 100
Inst	Average institutional ownership over the four quarters during the fiscal year (Equations 5 and D1) or institutional ownership as of the quarter-end that most closely precedes the activist campaign announcement (Equations 6 and 7)
Lev	Long-term debt-to-assets ratio at the end of the fiscal year
Liquidity	The yearly average, using daily data, of $-1 * 1000\sqrt{\frac{\lvert Return\rvert}{Dollar\ Trading\ Volume}}$
LSize	Natural log of market value of equity for the company at the end of the fiscal year (Equations 5 and D1) or at the end of the fiscal-quarter most closely preceding the campaign announcement date (Equations 6 and 7).
N_Articles	The total number of articles over the fiscal year
N_Articles_No50	The total number of articles over the fiscal year, excluding those that are classified as being neutral in sentiment (ESS = 50)
N_Articles_PMonth	The total number of articles over days [-31, -2] relative to the campaign announcement date, $t = 0$
N_Neg	The total number of negative articles (i.e., ESS < 50) over the fiscal year
N_Pos	The total number of positive articles (i.e., ESS > 50) over the fiscal year.
N_Sources	The number of unique sources providing coverage of the firm during the fiscal year. Because the Dow Jones edition of the RavenPack database includes press coverage for four media outlets (by the Wall Street Journal, Barron's, MarketWatch, and Dow Jones Newswires), N_Sources ranges from 0 to 4

N_Sources_Annc	The number of unique sources providing coverage of the firm on the campaign announcement date
N_Sources_PMonth	The number of unique sources providing coverage of the firm over days [-31, -2] relative to the campaign announcement date, $t = 0$
N_VeryNeg	The total number of very negative articles (i.e., ESS < 25) over the fiscal year
N_VeryPos	The total number of very positive articles (i.e., ESS > 75) over the fiscal year
Prominent	An indicator equal to 1 for campaigns launched by an activist that is classified as prominent by either SharkRepellant (i.e., whether the activist is a member of the "SharkWatch 50") or Thomson One (i.e., whether the activist is included in the "Prominent Activist" search option)
ROA	EBITDA divided by lagged assets
Sale	An indicator equal to 1 for activist campaigns that seek to sell the company or a part of it; 0 otherwise
Sellpct	Monthly number of sell recommendations, divided by total recommendations and multiplied by 100
SP1500	An indicator equal to 1 for activist targets that are part of the S&P Composite 1500 at the time of the campaign announcement
Year	An indicator equal to 1 for the fiscal year indicated by the subscript, relative to year of the activism announcement (t)

APPENDIX B

CONSTRUCTION OF FSCORE COMPONENTS

	Variable	Calculation with Compustat Names	F_{VARi} = 1 if…
Profitability	ROA_t	$\frac{IB_t}{AT_{t-1}}$	$ROA_t > 0$
	ΔROA_t	$\frac{IB_t}{AT_{t-1}} - \frac{IB_{t-1}}{AT_{t-2}}$	$\Delta ROA_t > 0$
	CFO_t	$\frac{OANCF_t}{AT_{t-1}}$	$CFO_t > 0$
	$ACCRUAL_t$	$\frac{IB_t - OANCF_t}{AT_{t-1}}$	$ACCRUAL_t < 0$
Capital Structure	$\Delta LEVER_t$	$\frac{DLC_t + DLTT_t}{\left[\frac{AT_t + AT_{t-1}}{2}\right]} - \frac{DLC_{t-1} + DLTT_{t-1}}{\left[\frac{AT_{t-1} + AT_{t-2}}{2}\right]}$	$\Delta LEVER_t < 0$
	$\Delta LIQUID_t$	$\frac{ACT_t}{LCT_t} - \frac{ACT_{t-1}}{LCT_{t-1}}$	$\Delta LIQUID > 0$
	EQ_OFFER_t	$= 1\ if\ SCSTKC_t > PRSTKCC_t$ or DISTCD=658X in CRSP's DSEALL during year t	$EQ\_OFFER_t = 0$
Operating Efficiency	$\Delta MARGIN_t$	$\frac{SALE_t - COGS_t}{SALE_t} - \frac{SALE_{t-1} - COGS_{t-1}}{SALE_{t-1}}$	$\Delta MARGIN_t > 0$
	$\Delta TURN_t$	$\frac{SALE_t}{AT_{t-1}} - \frac{SALE_{t-1}}{AT_{t-2}}$	$\Delta TURN_t > 0$
FScore signals include ROA, change in ROA, cash flow from operations, accruals, change in leverage, change in liquidity, seasoned equity offering indicator, change in gross margin, and change in sales turnover. Each signal is classified as either good or bad and given a score of 1 or 0, respectively. The *FScore* is simply the sum of the nine scores.			
Compustat Variable Descriptions: *ACT*: Current Assets – Total, *AT*: Assets – Total, *COGS*: Cost of Goods Sold, *DLC*: Debt in Current Liabilities – Total, *DLTT*: Long-Term Debt – Total, *IB*: Income before Extraordinary Items, *LCT*: Current Liabilities – Total, *OANCF*: Operating Activities Net Cash Flow, *PRSTKCC*: Purchase of Common Stock (Cash Flow), *SALE*: Sales/Turnover (Net), *SCSTKC*: Sale of Common Stock (Cash Flow). See Piotroski (2000) for the motivation of each component.			

APPENDIX C

CLASSIFICATION OF ACTIVISM EVENTS

Initial Demand	Description
Sale	The activist's goal is for management to put the company, or a part of the company, up for sale. Activist campaigns in this category include events in which the proposed buyer, if identified, may either be a third party or the activist itself.
Engage management	The activist announces its intention to communicate with management to discuss ways to "enhance shareholder value" but does not include any specific plans or proposals in its announcement.
Board composition	The activist seeks to change the board composition in some way, for example, by withholding its vote for certain directors, by requesting that one or more of the existing directors step down, and/or by demanding that its own nominee(s) be elected to the board.
Corporate governance	The activist pushes for changes that are related to corporate governance but are not related to board composition. Examples include demands for increased transparency, the resignation of one or more managers, the elimination of a poison pill, and/or the declassification of the board.
Corporate strategy	This type of activism includes campaigns aimed at changing some aspect of the company's strategy, for example, by spinning off a division, opposing a proposed sale, adopting a more tax-efficient capital structure, or focusing on a narrower range of products.
Other	This category includes activist interventions that do not fall into the categories above, for example, supporting a dissident group in a proxy fight, supporting management in a proxy fight, proposing liquidation or reorganization, or voting for third-party stockholder proposal.

APPENDIX D

DESCRIPTION OF PROPENSITY-SCORE MATCHING METHODOLOGY

Propensity-Score Matching Model

To identify a sample of control firms with characteristics similar to the target firms, we use logistic regression to predict shareholder activism in year *t* (firm subscripts omitted for clarity). The regression uses all firms with available data in year *t*-1.

$$\begin{aligned} Activist_t = \quad & \beta_0 + \beta_1 LSize_{t-1} + \beta_2 BHAR_{t-1} + \beta_3 Lev_{t-1} + \beta_4 Div\_Yield_{t-1} \\ & + \beta_5 ROA_{t-1} + \beta_6 Growth_{t-1} + \beta_7 Analyst_{t-1} + \beta_8 Inst_{t-1} \\ & + \beta_9 Liquidity_{t-1} + \beta_{10} TobinsQ + YearFE + IndFE \end{aligned} \quad \text{(D1)}$$

All of the independent variables above have been shown in prior studies to be determinants of the activist's targeting decision (e.g., Brav, Jiang, Partnoy, and Thomas 2008; Chen and Jung 2015; Aslan and Kumar 2016; Gantchev and Jotikasthira 2017). *LSize* represents firm *i*'s log of the market value of equity at the end of fiscal year *t*-1. Activists are more likely to target smaller firms because establishing a large enough ownership stake to exert influence is less costly. *BHAR* measures the buy-and-hold abnormal return (firm *i*'s return less the value-weighted market return) over fiscal year *t*-1. We match on prior stock performance because one of critics' key arguments is that activists target firms after a decline in stock price and any improvement in their market return observed after the activist intervention would have occurred anyway. *Lev* is firm *i*'s debt at the end of year *t*-1, scaled by assets at that time. Activists often target firms they perceive as under-levered in order to push the company to increase its debt. *Div_Yield* is firm *i*'s dividend yield in year *t*-1: (preferred dividends + common dividends)/(market value of common stock + book value of preferred stock). *Div_Yield* is included to capture activists' commonly observed demand to increase shareholder payouts at firms with low payouts. *ROA* is earnings

before interest, taxes, depreciation, and amortization, scaled by beginning-of-year assets (i.e., assets at the end of year *t*-2). *Growth* is firm *i*'s sales growth from year *t*-2 to year *t*-1. Prior research has found that targets tend to exhibit lower sales growth but higher profitability.

Analyst represents analyst following and is defined as the number of analysts who make either a quarterly or an annual earnings forecast during fiscal year *t*-1. *Inst* denotes average institutional ownership across the four quarters during the fiscal year *t*-1. Kahn and Winton (1998) argue that activists will only intervene in target firms to improve firm performance (1) if they understand the target's industry and (2) if the market understands the target's industry, so that it can quickly ascertain the benefits of the intervention. Thus, activists are more likely to target firms that have a more transparent information environment (proxied by higher analyst following) and more sophisticated shareholders (proxied by higher institutional ownership). Both *Analyst* and *Inst* are set to 0 when missing.

We include a proxy for trading liquidity, *Liquidity*, modified from Amihud (2002) and calculated as the yearly average of the following daily measure:

$$-1 * 1000 \sqrt{\frac{|Return|}{Dollar\ Trading\ Volume}}$$

The original Amihud (2002) measures illiquidity, so we multiply it by -1 so that higher values reflect higher trading liquidity. We multiply it by 1000 to reduce the number of zeros to the right of the decimal point. We include *Liquidity* as a determinant of activism because prior literature shows that activists are more likely to intervene at companies with substantial trading volume, since this lowers the costs of entering and exiting an activist position (Edman, Fang, Zur 2013; Norli, Ostergaard, and Schindele 2015; Gantchev and Jotikasthira 2017). We include *TobinsQ*, the ratio of the market value of a firm's assets divided by the replacement value of the firm's assets, to control for the fact that activists tend to target firms that are undervalued. Finally, we

include year fixed effects and Fama-French, 17-industry fixed effects to control for macroeconomic drivers of activism.[22]

Propensity-Score Matching Results

Results from our model predicting the likelihood of an activist intervention (Equation D1) are found at the end of Appendix D in Table D1, Panel A. In column one, we present results from an earlier version of the paper that omits *TobinsQ* from the model. Based on presentation feedback, we include *TobinsQ* in the model used to generate the matched sample used in our main analyses (column two). We note that the addition of *TobinsQ* to the model causes *BHAR* and *ROA* to lose significance; nevertheless, our main results are virtually identical whether we use the model in column one or in column two to generate the matched sample. Overall, we find that targets have lower pre-intervention returns than control firms. We also find that targeted firms tend to be smaller, and they have more debt, higher return-on-assets, lower sales growth, greater coverage by analysts, higher institutional ownership, greater liquidity, and lower values of *TobinsQ*. The significant characteristics are similar to those in other recent studies. For example, for the period from 2000 to 2007, Gantchev and Jotikasthira (2017) find that targeting is positively correlated with liquidity and institutional ownership, and negatively correlated with size and Tobin's Q. The area under the ROC curve is 0.8, so the model is much better than random assignment in discriminating between targets and non-targets.

Using the predicted values (i.e., propensity scores) from the above regression, we match (without replacement) each target firm to the non-target firm with the same fiscal year-end and

[22] Recent research documents spillover effects of shareholder activism to non-targeted industry peers (e.g., Aslan and Kumar 2016; Gantchev, Gredil, and Jotikasthira 2016). We match target firms to control firms from the same industry, so to the extent that the activism campaigns elicit similar capital market responses at non-targeted peer firms, we should not observe significant post-intervention differences between target and control firms. Spillover effects therefore reduce the likelihood of rejecting our null hypotheses.

Fama-French 17 industry that has the closest propensity score (i.e., the "nearest neighbor"). We require that the difference in propensities between a target firm and its match be no larger than 0.006, which is based on the rule-of-thumb of 0.2 times the standard deviation of propensity scores, as suggested by Austin (2011). The reported results include only target firms for which we found suitable matches.[23] In Panel B, we report on covariate balance and find that the differences between the target and control firms are all statistically insignificant (regardless of whether *TobinsQ* is included in the model), suggesting that activist and control firms are comparable along these observable determinants of activism. Thus, the control firms provide a reasonable proxy for the counterfactual of the targeted firms without the intervention.[24]

[23] The number of suitable matches found is virtually identical if we use a more relaxed caliper of 0.1. We also find that including the unmatched target firms produces results that are nearly identical.

[24] The ideal test of the effects of activism would assign firms to activists randomly to see if activism has a positive effect. Since this ideal is not possible, we match targeted firms with control firms on observable characteristics and make the reasonable assumption that unobservable characteristics are not associated with those that are observable (Angrist and Pischke 2009, 2014).

TABLE D1. Likelihood of Being Targeted by an Activist Investor

Panel A: Propensity Score Estimation (based on logistic regression)

	(1)	(2)
	Coefficient	
Dep. Variable = *Activist*	(Standard Error)	
$LSize_{t-1}$	-0.213***	-0.195***
	(0.0215)	(0.0213)
$BHAR_{t-1}$	-0.175***	-0.0662
	(0.0407)	(0.0443)
Lev_{t-1}	0.121***	0.175**
	(0.0454)	(0.0748)
Div_Yield_{t-1}	-0.760	-0.963
	(0.792)	(0.810)
ROA_{t-1}	0.300***	0.175
	(0.100)	(0.119)
$Growth_{t-1}$	-0.166***	-0.123***
	(0.0475)	(0.0445)
$Analyst_{t-1}$	0.0145***	0.0163***
	(0.00431)	(0.00429)
$Inst_{t-1}$	1.166***	1.116***
	(0.0865)	(0.0851)
$Liquidity_{t-1}$	0.139***	0.153***
	(0.0369)	(0.0376)
$TobinsQ_{t-1}$		-0.201***
		(0.0434)
Year Fixed Effects	YES	YES
Industry Fixed Effects (Fama-French 17)	YES	YES
N	117,924	117,872
Pseudo R-squared	0.14	0.14
Area under the ROC Curve	0.80	0.81

*, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively, with two-tailed p-values, calculated based on standard errors clustered at the firm-level.

Appendix A provides variable definitions.

Panel B: Covariate Balance for Target and Control Firms

	Subsample Means (excl. *TobinsQ*)			Subsample Means (incl. *TobinsQ*)		
Variable	Target	Control	diff. p > |t|	Target	Control	diff. p > |t|
LSize	5.844	5.828	0.755	5.844	5.822	0.668
BHAR	-0.040	-0.031	0.450	-0.040	-0.040	0.957
Lev	0.555	0.554	0.918	0.555	0.547	0.292
Div_Yield	0.012	0.013	0.617	0.012	0.012	0.510
ROA	0.073	0.067	0.320	0.073	0.070	0.612
Growth	0.117	0.117	0.991	0.117	0.117	0.990
Analyst	8.269	8.088	0.428	8.269	8.179	0.697
Inst	0.527	0.522	0.527	0.527	0.522	0.518
Liquidity	-0.402	-0.397	0.803	-0.402	-0.402	0.977
TobinsQ				1.596	1.608	0.763
Number of Matched Activist Target-Years	3,244			3,244		

This table presents descriptive statistics for the covariates used to predict the likelihood of being targeted by an activist investor. All continuous variables are winsorized at the 1% and 99% levels.
Appendix A provides variable definitions.